

THE
Anatomist's Vade-Mecum,
CONTAINING
A CONCISE AND ACCURATE DESCRIPTION
OF THE
STRUCTURE, SITUATION, AND USE
OF EVERY PART OF
THE HUMAN BODY.

To which is added,
An Explanation of ANATOMICAL Terms.

FOR THE USE OF STUDENTS, &c.

BY ROBERT HOOPER,
OF PEMBROKE COLLEGE, OXFORD. M. D. F. L. S. &c.

L O N D O N :

Sold by BELL, *Oxford-street*; MURRAY and HIGHLEY, *Fleet-street*;
JOHNSON, *St. Paul's Church-yard*; BOOSEY, *Old Broad-street*;
and FLETCHER and HANWELL, *Oxford*.

M.DCC.XCVII.

77-14045

CONTENTS.

	Page
INTRODUCTION	vii
OSTEOLOGY - - - - -	I
Bones of the head - - - - -	4
_____ face - - - - -	6
Cavities of the face - - - - -	9
Bones of the trunk - - - - -	12
_____ chest - - - - -	13
_____ loins - - - - -	14
_____ pelvis - - - - -	14
_____ superior extremity - - - - -	15
_____ inferior extremity - - - - -	18
The connections of bones - - - - -	20
SYNDESMOLOGY - - - - -	29
Periosteum, Marrow, Cartilages, and Synovia, - - - - -	29
Ligaments - - - - -	30
MYOLOGY - - - - -	37
Muscles of the head - - - - -	38
_____ neck - - - - -	46
_____ abdomen - - - - -	52
_____ organs of generation - - - - -	53
_____ thorax - - - - -	56
_____ upper extremity - - - - -	63
_____ lower extremity - - - - -	70

	Page
BURSALOGY	78
Bursæ mucosæ of the head	78
————— upper extremity	78
————— lower extremity	80
ANGIOLOGY	82
Arteries in general	82
System of the aorta	83
————— pulmonary artery	87
Veins in general	87
System of the vena cava	87
————— portæ	90
Aborbents	91
NEUROLOGY	93
Nerves of the brain	94
————— medulla spinalis	96
————— lower extremities	97
The great intercostal nerves	98
ADENOLOGY	99
Glands of the head	100
————— neck	102
————— thorax	103
————— abdomen	103
————— organs of generation	105
————— extremities	106
————— joints	106

	Page
SPLANCHNOLOGY	107
Common integuments	108
Viscera of the head	109
----- neck	115
----- thorax	117
----- abdomen	121
----- pelvis	126
The male organs of generation	126
The female organs of generation	128
Parts of the gravid uterus	129
HYGROLOGY	132
Fluids common to the whole body	132
Fluids proper to each part	134
Fluids of the head	134
----- neck	136
----- thorax	137
----- abdomen	138
Fluids in the parts of generation in men	139
----- women	140
Fluids in the articulations and bones	141
----- common integuments	142
EXPLANATION of TERMS	143

E R R A T A.

Page 32, line 8, *read* portions of the sternum to the ribs.

Page 144, line 1, *for* Anastamosis *read* Anastomosis.

INTRODUCTION.

IT is the intention of the Writer, in the following Compendium, to present to the Student, a useful Anatomical Conspectus, or Pocket Manual of Anatomy, giving a short, but accurate Description of the different parts of the Human Body ; with a Glossary or Explanation of the principal Terms used in that science.

The utility of such a performance will be generally acknowledged, especially when we consider, that there is no such work written upon a similar plan.

The Author has divided the Anatomy of the Human Body into nine parts.

1. In the *Osteology* will be found the principal divisions, eminences, cavities, &c. &c. of all the bones, with their synonima.

2. The *Syndesmology* is short, but conveys a very clear idea of the connections of bones by their means.

3. The *Doctrine of the Muscles* is conducted after the much-approved plan of INNIS. The mode of name—origin—insertion—and use—in one concentrated view, the author hopes, will convey a perfect knowledge of their situations and functions.

4. The *Bursalogy* is introduced in a compendious form, as deserving the attention of the Student.

5. The

5. The *Angiology* exhibits an explicit description of the different arteries, veins and absorbents.

6. The *Neurology* is divided, in some respects, different from the generality of writers on this subject.

7. The *Doctrine of the Glands* is short.

8. The *Splanchnology* contains all the most useful information on that head, reduced into a very small space. And,

9. The *Hygrology* gives the definitions, nature, and use of all the fluid parts of the body, as considered in the doctrine of the fluids.

The motives that induced the Author to form and collect together, in one small pocket volume, this elementary production, to which he has added those technical Terms and greek Derivatives, that occur most frequently in Anatomy, were, his having himself experienced the want of such an assistant, when applying to that branch of Philosophy. He, therefore, solicits permission to recommend it to Students, not as a work, wherein any thing new is to be met with, but merely as their occasional companion, in the prosecution of their studies.

*Non docentibus, sed discantibus ;
Non eruditis, sed erudiendis.*

St. Mary-le-bone Infirmary,

Nov. 15, 1797.

ANATOMY,

A SCIENCE which explains the structure of the human body. It is divided into

Osteology,	} or doctrine of the	Bones.
Syndesmology,		Ligaments.
Myology,		Muscles.
Bursology,		Bursæ Mucosæ.
Angiology,		Vessels.
Neurology,		Nerves.
Adenology,		Glands.
Splanchnology,		Viscera.
Hygrology,		Fluids.

The human body, during life, is composed of solids, fluids, and a vital principle. Anatomy considers the solids and fluids, but the vital principle and its effects belong to Physiology.

OSTEOLOGY.

Definition. Bones are the hardest, dryest, and most insensible parts of the body. *Substance,* compact—spongy—reticular. *Colour,* whitish. *Figure,* various. *Division.* Long bones into body and extremities—Plain bones into middle and margins—Irregular bones into body and extremities. *Processes,* vary according to figure, situation, &c.: thus cristæ, spines, condyles, heads, tuberosities, &c. *Cavities,* named according to figure, use, &c. as acetabulum, fovea, foramen, sulcus, canals, cells, &c.

The body is divided into cranium, trunk, and extremities.

A Table of the BONES.

		No.
The Bones of the HEAD.	The bones of the <i>cranium</i> or <i>skull</i> .	Os frontis - 1
		Offa parietalia - 2
		Os occipitis - 1
		Offa temporalia - 2
		Os ethmoides - 1
	The bones of the <i>face</i> .	— sphaenoideum - 1
		Offa maxillaria sup. - 2
		— jugalia - 2
		— nasalia - 2
		— lachrymalia - 2
	<i>Dentes</i> or <i>teeth</i> .	— palatina - 2
		— spongiosa infer. - 2
		Os vomer - 1
		— maxillare infer. - 1
		Incisores - 8
	Bone of the <i>tongue</i> , or	Cuspidati - 4
		Bicuspides - 8
		Molares - 8
		Sapientiae - 4
Bones of the TRUNK.	Bones of the internal <i>ear</i> , situated with- in the temporal bone.	Os hyoides - 1
		Malleus - 2
		Incus - 2
		Stapes - 2
	The <i>spine</i>	Os orbiculare - 2
		Vertebrae { Cervical 7
		{ Dorsal 12
		{ Lumbar 5
	The <i>thorax</i>	Sacrum - 1
		Os coccygis - 1
	The <i>pelvis</i>	Sternum - 1
		Ribs - 24
		Offa innominata - 2

				No.	
The Bones of the UPPER EXTREMITIES.	The <i>shoulder</i>	{	Clavicle	- 2	
			Scapula	- 2	
	The <i>arm</i>		Os humeri	- 2	
	The <i>fore-arm</i>	{	Ulna	- 2	
			Radius	- 2	
	The <i>hand</i>	{	Os naviculare	2	
			lunare	2	
			cuneiforme	2	
			orbiculare	2	
			trapezium	2	
trapezoides			2		
magnum			2		
unciforme			2		
Metacarpus			- - - 10		
Phalanges			- - - 28		
The Bones of the LOWER EXTREMITIES.	The <i>thigh</i>	-	Os femoris	- 2	
	The <i>leg</i>	{	Patella	- 2	
			Tibia	- 2	
			Fibula	- 2	
	The <i>foot</i>	{	Os calcis	- 2	
			astragalus	- 2	
			cuboides	- 2	
			naviculare	- 2	
			cuneiformia	6	
		Metatarsus		- - - 10	
Phalanges		- - - 28			
<hr/>					
240					
Sesamoid bones of the thumb and great toe, occasionally found				8	
<hr/>					
B 2				Total - 248	

OF THE CRANIUM OR SKULL.

Division, into calvaria or top, and basis. *Composed* of 8 bones, the frontal—occipital—two parietal—two temporal—the sphenoid—and ethmoid.

FRONTAL BONE.

Situated in the anterior part of the skull. *Figure*, like a cockle-shell. *Processes*, tubera frontalia—superciliary arches—external frontal spine—two external and two internal orbital apophyses—and an internal frontal spine. *Cavities*, two orbital cavities—fossa for the lachrymal gland—a notch for the trochlea of the superior oblique muscle—superciliary foramen—two pituitary sinuses—a furrow—foramen cæcum—ethmoid notch. *Use*, to form the forehead:

PARIETAL BONES.

Situated on each side of the superior part of the cranium. *Figure*, arched and somewhat quadrangular. *Cavities*, parietal foramen—planum semicirculare—internal, furrow in the sagittal margin—sulcus for the spinous artery. *Use*, to form the superior part of the cranium. *Synonyms*. Ossa verticis—syncipitis—verticalia vel bregmatis.

OCCIPITAL BONE.

Situated in the posterior part of the cranium. *Figure*, quadrate oblong. *Processes*, external occipital tubercle—basilary process—condyloid processes—
internal,

[5]

internal, crucial spine—superior ramus or branch—lateral rami—inferior ramus. *Cavities*, two niches—great occipital foramen—two anterior condyloid foramina—two posterior condyloid foramina—in-*ternal*, two superior and two inferior occipital fossæ—fossa of the medulla spinalis—superior sulcus—two lateral sulci. *Use*, to constitute the posterior part of the cranium. *Synonym*. Os basilare.

SPHÆNOID BONE.

Situated in the middle of the basis of the cranium. *Figure*, irregular, compared to a bat with its wings extended. *Prominences*, sphænoid spine—alæ majores—apophysis pterygoidea—hamulus—spinous apophysis—in-*ternal*, alæ minores—anterior and posterior clypeoid apophyses. *Cavities*, sphænoidal pituitary sinuses—pterygoid fovea—foramina of the pterygoid canal—in-*ternal*, sella turcica—optic foramina—superior orbital rimæ—foramina rotunda—ovalia—spinosa. *Use*, to form the basis of the cranium—part of the orbits—pituitary sinuses of the nose and temples.

TEMPORAL BONES.

Situated at the sides and inferior part of the cranium. *Figure*, irregular. *Division*, into squamous—mammillary—petrous portions. *Processes*, zygomatic apophysis—articular tubercle—styloid and mastoid apophyses. *Cavities*, articular fovea—external ori-

fice of the meatus auditorius—mastoid sulcus—stylo-mastoid foramen—carotid canal—a notch—Eustachian tube——*internal*, sulcus of the spinous artery—meatus auditorius internus—orificium internum of the aquæduct of Fallopius. *Use*, to contain the middle lobes of the brain—part of the cerebellum, and organ of hearing.

ETHMOID BONE.

Situated anteriorly in the basis of the cranium, at the upper part of the nose. *Figure*, cube-like. *Prominences*, crista galli—lamina cribrosa—lamina perpendicularis—cavernous substance—plana papyracea. *Cavities*, foramina cribrosa—orbital foramen of the nose—cavernulæ of the cavernous substance. *Use*, to form part of the nose—cranium and orbits. *Synonym*. Os cribriforme.

OF THE BONES OF THE FACE.

FACE divided into upper and under jaw. Upper jaw consists of 13 bones, viz. 2 superior maxillary, 2 jugal, 2 nasal, 2 lachrymal, 2 inferior spongy, 2 palatine, and the vomer.

SUPERIOR MAXILLARY BONES.

Situated in the anterior and middle part of the face. *Figure*, irregular. *Prominences*, nasal—orbital—jugal—palatine apophyses—alveolar arch—maxillary tuberosity—nasal spine—orbital margin. *Cavities*, lachrymal fossa—nasal canal—infra-orbital foramen

men and canal—anterior and posterior palatine foramen — aperture of the maxillary sinus — pituitary maxillary sinus. *Use*, to form part of the face, palate, nose, nostrils and orbit—and to receive in its alveoli, or sockets, the teeth.

JUGAL BONES.

Situated at the sides of the face. *Figure*, almost quadrate. *Prominences*, frontal—orbital—malar and zygomatic apophyses. *Cavities*, zygomatic fovea—two foramina. *Use*, to form part of the face and orbits. *Synonym*. *Ossa malarum—zygomata*.

BONES OF THE NOSE.

Situated in the superior and middle part of the nose. *Figure*, quadrangular and oblong. *Use*, to form the bridge of the nose, and to constitute its external part.

LACHRYMAL BONES.

Situated in the internal angle of the orbit. *Figure*, like the nail of the finger. *Cavities*, a fulcus in the middle. *Use*, to constitute part of the orbit—lachrymal fossa; and to cover the labyrinth of the nostrils. *Synonym*. *Os unguis*.

INFERIOR SPONGY BONES.

Situated in the lateral and inferior part of the nostrils. *Figure*, spiral. *Cavities*, the cavity of the spongy bone. *Use*, to augment the surface of the organ of smelling. *Synonym*. *Ossa turbinata inferiora—conchæ inferiores*.

PALATINE BONES.

Situated in the posterior part of the nose, from which it ascends laterally to the orbits. *Figure*, irregular. *Division*, into nasal—palatine—orbital portions. *Prominences*, pterygoid and orbital apophyses—linea eminens. *Use*, to form the posterior part of the palate—cavity of the nose, and part of the orbit.

VOMER.

Situated in the middle of the cavity of the nostrils, which it divides into two parts. *Figure*, resembles a ploughshare. *Use*, to sustain and divide the cavity of the nostrils.

LOWER JAW.

Situated in the inferior and anterior part of the face. *Figure*, like an horse-shoe. *Prominences*, condyloid and coronoid processes—symphysis of the jaw—alveolar margin—inferior margin—angles of the jaw—external and internal spina mentalis. *Cavities*, femilunar notch—posterior and anterior maxillary foramen—canalis mentalis. *Use*, to receive the roots of the teeth in its alveolar margin—to constitute the inferior segment of the cavity of the mouth—and to afford a point of adhesion to the muscles of the face, neck, larynx, pharynx, and tongue. *Synonym*. Mandibula.

OF THE CAVITIES OF THE FACE IN PARTICULAR.

BESIDES the cavity of the cranium, there are five other cavities in the head, formed by the bones of the cranium and face, namely, the orbits—cavity of nostrils—mouth—fauces—and of hearing.

ORBITS.

Situated under the forehead, at the root of the nose. *Figure*, conoid. Angles of the orbits called *cantbi*. *Cavities*, fovea of the lachrymal gland—fovea of the orbital trochlea—fossa lachrymalis—canalis nasalis for the tears—superior, and inferior or sphæno-maxillary orbital rima—superciliary foramen—infra-orbital canal—foramen nasale and optic foramen. *Composed* of seven bones, frontal—maxillary—jugal—lachrymal—ethmoid—palatine—and sphænoid. *Use*, to contain and defend the organ of sight and its adjacent parts.

CAVITY OF THE NOSTRILS.

Situated under the anterior part of the cranium, in the middle of the face. *Figure*, pyramidal. *Pro-minences*, septum narium—cavernous substance of the ethmoid bone, improperly called the superior spongy bones—and the inferior spongy bones. *Cavities*, three pair of pituitary sinuses, namely, frontal—sphænoid—maxillary—cavernulæ of the ethmoid labyrinth—anterior foramina of the nostrils—
ductus

ductus nasalis—sphæno-palatine foramina—anterior palatine foramina. *Composed* of 14 bones, viz. frontal—two maxillary—two nasal—two lachrymal—two inferior spongy—sphænoid—vomer—ethmoid, and two palatine bones. *Use*, to form the organ of smelling and the pituitary sinus of the nostrils, and to serve also for speech and respiration.

CAVITY OF THE MOUTH.

Situated between the upper and under jaw. *Figure*, anteriorly ovate. *Divided* into upper and under jaw. *Composed* of 5 bones, viz. two superior maxillary—two palatine—the lower jaw bone, and 32 teeth. *Use*, for mastication—speech—respiration.

TEETH.

Situated in the alveoli of the jaws. *Number*, commonly 32, 16 in each jaw. *Divided* into four kinds, incisores—cuspidati—bicuspides, and molares. Each tooth divided into a crown, neck and root. *Substance* of the root and internal part of the crown compact—external surface very hard, of a shining white colour called *enamel*. *Use*, for mastication, and pronunciation of dental syllables.

CAVITY OF THE FAUCES.

Situated under the basis of the cranium, within the superior bodies of the vertebræ and posterior part of the nostrils, *Figure*, superiorly as it were quadrate.
Composed

Composed of 10 bones, viz. occipital—two palatine—vomer—the bodies of the three first vertebræ—os hyoides, and two temporal bones. *Use*, for the situation of the fauces, larynx, pharynx, and os hyoides.

OS HYOIDES.

Situated in the fauces between the basis of the tongue and larynx. *Figure*, semilunar. *Prominences*, two cornua majora, and two cornua minora. *Use*, to serve for the adhesion of the tongue—for deglutition—and for a point of adhesion to many muscles. *Synonym.* Offa lingualia.

CAVITY OF HEARING.

Situated internally in the petrous portion of the temporal bone. *Division*, into meatus auditorius externus—cavity of the tympanum—labyrinth—and meatus auditorius internus. In the *cavity of the tympanum* are, the orifice of the Eustachian tube—mastoid sinuosity—fenestra ovalis—fenestra rotunda, and the ossicula auditus. *Labyrinth* consists of the cochlea—vestibulum and semicircular canals. *Cochlea* has a basis—apex—modiolus—scala vestibuli—scala tympani, and lamina spiralis. *Vestibulum* has a foramen ovale, and orifices of the semicircular canals. *Use*. The cavity of hearing is the organ in which hearing is performed.

OSSICULA AUDITUS.

Situated in the cavity of the tympanum. *Number* 4, viz. malleus—incus—stapes, and os orbiculare. *Substance*, compact. *Use*, for hearing.

OF THE TRUNK.

THE trunk of the skeleton is divided into the spine—chest—loins—and pelvis.

SPINE.

An osseous column or pillar which extends in the posterior part of the trunk from the great occipital foramen to the os sacrum. *Composed* of 24 bones, called *vertebræ*, viz. 7 of the neck, 12 of the back, and 5 of the loins. *Division* of each vertebra into a body, and 7 apophyses, viz. the spinous—2 superior oblique—2 inferior oblique—and 4 transverse apophyses. *Cavities*, specus, or theca vertebralis—lateral foramina of the *vertebræ*. *Use*, to support the head and trunk—to contain and defend the spinal marrow. *Synonyms*. Spina dorfi—columna spinalis, vertebralis.

FIRST VERTEBRA, OR ATLAS.

Peculiarities. No body nor spinous apophyses, but forms an arch which anteriorly furrounds the denti-form process of the 2d vertebra. Instead of upper oblique processes, there are two articular sinuses.

SECOND VERTEBRA, OR EPISTROPHÆUS.

Peculiarities. An odontoid process at the upper part of the body.

VERTEBRÆ OF THE NECK.

Peculiarities. All the transverse apophyses have a peculiar foramen for the passage of the vertebral arteries.

DORSAL VERTEBRÆ.

Peculiarities. At the sides of the bodies are a mediate depression, and a superficial one in the points of the transverse processes.

LUMBAR VERTEBRÆ.

Peculiarities. They are much larger than the dorsal, and the transverse processes have no depressions.

OF THE CHEST OR THORAX.

THE thorax is composed of the 12 dorsal vertebræ, 24 ribs, and the sternum.

RIBS.

Situated obliquely from the dorsal vertebræ to the sternum. *Figure*, semicircular. *Number* 24, twelve on each side. *Division*, into 7 true, which are uppermost, and 5 spurious. *Eminences*, great head—neck—lesser head—angles of the rib. *Cavities*, a longitudinal groove. *Substance*, anterior part cartilaginous, rest osseous and compact. *Use*, to form the thorax

thorax—to serve for respiration—to defend the vital viscera—and to give adhesion to muscles.

STERNUM.

Situated in the anterior part of the thorax, between the true ribs. *Figure*, somewhat like a dagger. *Cavities*, jugular sinus—two clavicular sinuses—7 costal depressions. *Substance*, somewhat spongy. *Use*, to form the thorax, and give adhesion to the mediastinum.

OF THE LOINS.

THE bones of the loins are five lumbar vertebræ, which see.

OF THE CAVITY OF THE PELVIS.

Situated in the lower region of the trunk. *Figure*, somewhat like a barber's basin. *Composed* of 4 bones, viz. two ossa innominata—os sacrum, and coccyx. *Use*, to contain the organs of generation—the bladder—intestinum rectum—and to support the spine.

OSSA INNOMINATA.

Situated at the sides of the pelvis. *Figure*, irregular. *Division*, each bone into three portions, viz. ilium the uppermost, ischium the lowest, and pubis the anterior. *Eminences*, tuberosity of the ilium—crista ilii—posterior spine of the ilium—anterior and inferior spine of the ilium—crista of the bones of
the

the pubis—arches of the pubis—tuberosity of the ischium—spine of the ischium. *Cavities*, external and internal iliac cavity—nitch between the anterior spines of the ilium—anterior and posterior ischiatic nitch—acetabulum—fovea of the acetabulum—foramen ovale. *Use*, to form the pelvis—to retain the gravid uterus in its situation—and to constitute the acetabulum for the thighs.

OS SACRUM.

Situated at the posterior part of the pelvis. *Figure*, triangular, bent forwards. *Eminences*, two superior oblique processes—tubercles of the spinous processes—tubercles of the oblique and transverse processes—and the appearances of the vertebral bodies. *Cavities*, four pair of external, and four pair of internal foramina, and five longitudinal middle canals. *Use*, to constitute the pelvis, and sustain the spine.

OS COCCYGIS.

Situated at the apex of the sacrum. *Figure*, irregular. *Use*, to constitute the pelvis—sustain the rectum—and prevent the rupture of the perinæum in parturition.

OF THE SUPERIOR EXTREMITIES.

THE bones of the upper extremities are, on each side, the clavicle, scapula, humerus, radius, ulna, bones of the carpus, metacarpus, and fingers.

CLAVICLE.

CLAVICLE.

Situated obliquely in the upper and lateral parts of the thorax. *Figure*, like the letter S. *Cavities*, a furrow or groove of the subclavian vessels on the inferior surface. *Use*, to connect the scapula and humerus to the thorax, and to defend the subclavian vessels.

SCAPULA.

Situated in the upper and lateral part of the back. *Figure*, triangular. *Eminences*, labia of the external margin—neck of the scapula—spine—acromion—coracoid process. *Cavities*, articular cavity—acromion depression—supra-spinal and infra-spinal depression. *Use*, to defend the back, and give articulation to the humerus. *Synonym*. Omoplata.

OS HUMERI.

Situated between the scapula and fore-arm. *Figure*, long. *Eminences*, head—neck—greater and lesser tubercle——on the inferior extremity, three condyles, namely—external—internal and headed condyle—trochlea of the humerus. *Cavities*, furrow of the tubercles——in the inferior extremity, a posterior fossa for the acoroid process of the ulna—an anterior depression. *Use*, to constitute the arm. *Synonym*. Os brachii.

CUBIT,

CUBIT, OR ULNA.

Situated in the inside of the fore-arm, towards the little finger. *Figure*, long, and thicker above than below. *Eminences*, in the upper extremity, the olecranon or processus anconeus—in the lower extremity, the lower head—neck—styloid process. *Cavities*, sigmoid cavity. *Use*, to constitute the chief support of the fore-arm.

RADIUS.

Situated in the external side of the fore-arm, towards the thumb. *Figure*, long. *Eminences*, upper or excavated head—little head—styloid apophysis. *Cavities*, glenoid cavity. *Use*, to assist in forming the fore-arm—to serve for flexion, supination and pronation.

CARPUS, OR WRIST.

Composed of 8 bones, which lie close to each other, in a double row. *Situated* between the fore-arm and metacarpus. *Division*, into two rows, superior and inferior. *In the superior row*, are, (from the thumb to the little finger,) os scaphoides or naviculare—lunare—cuneiforme—and orbiculare, or sub-rotundum: *in the lower row*, os trapezium—trapezoides—magnum—and unciforme.

METACARPUS.

Situated between the carpus and fingers. *Composed* of five longitudinal bones; one of the thumb—and four metacarpal bones of the fingers. *Use*, to form the middle part of the hand.

C

FINGERS.

FINGERS.

Situated at the inferior extremity of the metacarpus. *Composed* of a thumb and four fingers. The thumb has two bones, and each finger three, which are called phalanges. *Use*, to form the fingers, which are the instruments of touch, defence and labour.

OF THE INFERIOR EXTREMITIES.

THE bones of the inferior extremity are, the femur, patella, tibia, fibula, the bones of the tarsus, metatarsus, and toes.

FEMUR.

Situated between the pelvis and tibia. *Figure*, long. *Eminences*, head—neck—great and small trochanter; on the inferior extremity, the external and internal condyle. *Cavities*, a depression in the head of the upper extremity—a sinus, and the posterior notch of the condyle, in the inferior extremity. *Use*, to form part of the lower extremity.

TIBIA.

Situated in the inside of the leg, between the femur and tarsus. *Figure*, longitudinal. *Eminences*, head of the tibia—spine of the tibia—crista tibiæ—and the malleolus internus. *Cavities*, two articular sinuses—and the articular cavity. *Use*, to support the leg, and serve for the flexion of the lower extremity.

FIBULA.

FIBULA.

Situated in the outer part of the leg, by the side of the tibia. *Figure*, longitudinal. *Eminences*, head of the fibula—and malleolus externus. *Use*, to form a fulcrum for the tibia, and assist in forming the leg.

PATELLA, OR KNEE-PAN.

Situated in the sinus, between the condyles of the femur, and above the tibia. *Figure*, somewhat resembles an heart. *Use*, to strengthen the knee-joint, and to serve as a common pulley for the extensor muscles of the tibia.

TARSUS.

Situated between the leg and metatarsus. *Figure*, in the superior part headed, and broad below. *Composed* of seven bones placed in a double row: *in the first row* are the astragalus and calcaneus: *in the second row*, the os naviculare—os cubiforme—and three cuneiform bones, which are placed close to each other. *Eminences*, head of the astragalus—tuberosity of the heel. *Use*, to form the basis of the foot, and to serve for its motion.

METATARSUS.

Situated between the tarsus and toes. *Composed* of five longitudinal bones. *Use*, to form the back and sole of the foot.

TOES.

Composition. The great toe, of two small bones—
each toe, of three small bones called phalanges.

SESAMOID BONES.

Situated in the joints under the phalanges of the
thumb and of the great toe.

OF THE CONNECTION OF BONES.

GENERA.

SPECIES.

DIARTHROSIS ;
or
Moveable Con-
nection.

[*Enarthrosis*, when the round head of one bone is received into the deep cavity of another, so as to admit of motion in every direction ; as the head of the os femoris with the acetabulum of the os innominatum.

Artbrodia, when the round head of a bone is received into a superficial cavity of another, so as to admit of motion in every direction ; as the head of the humerus with the glenoid cavity of the scapula.

Ginglymus, when the motion is only flexion and extension ; thus the tibia is articulated with the os femoris.

Trochoides, when one bone rotates upon another ; as the first cervical vertebra upon the odontoid process of the second.

[*Amphyarthrosis*, when there is motion, but that very obscure ; as the motion of the metacarpal and metatarsal bones.

GENERA.

SPECIES.

SYNARTHROSIS ;
or
Immoveable Con-
nection.

Suture, when the union is by means of dentiform margins ; as in the bones of the cranium.

Harmony, when the connection is by means of rough margins, not dentiform ; as in the bones of the face.

Gomphosis, when one bone is fixed within another, like a nail in a board ; as the teeth in the alveoli of the jaws.

SYMPHYSIS ;
or
Mediate Connection.

Syncbondrosis, when a bone is united with another by means of an intervening cartilage ; as the vertebræ and bones of the pubis.

Syffarcosis, when a bone is connected with another by means of an intervening muscle ; as the os hyoides with the sternum and other parts.

Syneurosis, when a bone is united to another by an intervening membrane ; as the bones of the head of the foetus.

Syndesmosis, when a bone is connected to another by means of an intervening ligament ; as the radius with the ulna, &c.

A Table of the Connections of every Bone of the Human Body.

The **FRONTAL BONE** is connected with

- | | | |
|---------------------------------|--------|---------------------|
| 1. The parietal bones | } by { | The coronal future. |
| 2. The bones of the nose | | Harmony. |
| 3. The cheek bones | | Harmony. |
| 4. The lachrymal bones | | Harmony. |
| 5. The superior maxillary bones | | Harmony. |
| 6. The ethmoid bone | | Harmony. |
| 7. The sphæmoid bone | | Harmony. |

The **PARIETAL BONES** are connected with

- | | | |
|-----------------------|--------|-------------------------------------|
| 1. One another | } by { | The sagittal future. |
| 2. The temporal bones | | The squamous future. |
| 3. The sphæmoid bone | | The squamous future. |
| 4. The frontal bone | | The coronal future. |
| 5. The occipital bone | | The occipital or lambdoidal future. |

The **OCCIPITAL BONE** is connected with

- | | | |
|-----------------------|--------|------------------------|
| 1. The temporal bones | } by { | The lambdoidal future. |
| 2. The parietal bones | | The lambdoidal future. |
| 3. The sphæmoid bone | | Synchondrosis. |
| 4. The atlas | | Ginglymus. |
| 5. The epistropheus | | Syndesmosis. |

The **SPHÆMOID BONE** is connected with

- | | | |
|---------------------------|--------|---------------------|
| 1. The frontal bone | } by { | Sphænoidal harmony. |
| 2. The ethmoid bone | | Harmony. |
| 3. The vomer | | Gomphosis. |
| 4. The occipital bone | | Synchondrosis. |
| 5. The parietal bones | | Squamous future. |
| 6. The temporal bones | | Sphænoidal harmony. |
| 7. The cheek bones | | Sphænoidal harmony. |
| 8. The superior maxillary | | Sphænoidal harmony. |
| 9. The palate bones | | Sphænoidal harmony. |

The

The TEMPORAL BONES are connected with

- | | | |
|--------------------------|--------|------------------------|
| 1. The parietal bones | } by { | The squammous suture. |
| 2. The cheek bones | | Zygomatic harmony. |
| 3. The occipital bone | | The lambdoidal suture. |
| 4. The sphænoid bone | | Sphænoidal harmony. |
| 5. The inferior maxilla. | | Arthrodia. |

The OSSICULA AUDITUS are connected within the Tympanum in the following manner :

- | | | |
|---------------------------------|---|-------------------|
| The manubrium
of the malleus | } grows to the tym-
panum by | } Syneurosis. |
| The head of
the malleus | } is joined to the head
of the incus by | } Amphyarthrosis. |
| The incus | { is united to the os
orbiculare by | { Amphyarthrosis. |
| The os orbiculare | { is joined to the
stapes by | { Synchondrosis. |
| The stapes | { is connected to the fe-
nestra ovalis by | { Syneurosis. |

The ETHMOID BONE is connected with

- | | | |
|-------------------------|--------|----------------------------|
| 1. The frontal bone | } by { | Harmony. |
| 2. The ossa nasi | | Harmony. |
| 3. The superior maxill. | | Harmony. |
| 4. The lachrymal bones | | Harmony. |
| 5. The palatine bones | | Harmony. |
| 6. The sphænoid bone | | Sphænoidal harmony. |
| 7. The vomer | | Harmony and Synchondrosis. |

The SUPERIOR MAXILLARY BONES are connected with

- | | | |
|------------------------------|--------|------------|
| 1. One another | } by { | Suture. |
| 2. The frontal bone | | Harmony. |
| 3. The ossa nasi | | Harmony. |
| 4. The lachrymal bones | | Harmony. |
| 5. The ethmoid bone | | Harmony. |
| 6. The cheek bones | | Suture. |
| 7. The palatine bones | | Harmony. |
| 8. The sphæmoid bone | | Harmony. |
| 9. The inferior spongy bones | | Harmony. |
| 10. The vomer | | Gomphosis. |
| 11. The teeth | | Gomphosis. |

Each CHEEK BONE is connected with

- | | | |
|-------------------------|--------|---------------------|
| 1. The frontal bone | } by { | Harmony. |
| 2. The superior maxill. | | Suture. |
| 3. The sphæmoid bone | | Sphæmoidal harmony. |
| 4. The temporal bone | | Zygomatic harmony. |

The OSSA NASI are connected with

- | | | |
|---------------------------|--------|----------|
| 1. One another | } by { | Harmony. |
| 2. The frontal bone | | Harmony. |
| 3. The superior maxillary | | Harmony. |
| 4. The ethmoid bone | | Harmony. |

Each LACHRYMAL BONE is connected with

- | | | |
|-----------------------------|--------|----------|
| 1. The superior maxillary | } by { | Harmony. |
| 2. The frontal bone | | Harmony. |
| 3. The ethmoid bone | | Harmony. |
| 4. The inferior spongy bone | | Harmony. |

Each INFERIOR SPONGY BONE is connected with

- | | | |
|---------------------------|--------|----------|
| 1. The superior maxillary | } by { | Harmony. |
| 2. The palatine bone | | Harmony. |
| 3. The lachrymal bone | | Harmony. |
| 4. The ethmoid bone | | Harmony. |

The

The PALATINE BONES are connected with

- | | | | | |
|-----------------------------|---|----|---|------------|
| 1. One another | } | by | { | Suture. |
| 2. The superior maxillary | | | | Harmony. |
| 3. The sphæmoid bone | | | | Harmony. |
| 4. The ethmoid bone | | | | Harmony. |
| 5. The inferior spongy bone | | | | Harmony. |
| 6. The vomer | | | | Gomphosis. |

The VOMER is connected with

- | | | | | |
|---------------------------|---|----|---|------------|
| 1. The sphæmoid bone | } | by | { | Gomphosis. |
| 2. The ethmoid bone | | | | Harmony. |
| 3. The superior maxillary | | | | Gomphosis. |
| 4. The palatine bones | | | | Gomphosis. |

The LOWER JAW is connected with

- | | | | | |
|-----------------------|---|----|---|--------------|
| 1. The temporal bones | } | by | { | Arthrodia. |
| 2. The os hyoides | | | | Syffarcofis. |

The OS HYOIDES is connected with

- | | | | | | |
|-----------------------|---|----|---|-------------------------|--------|
| 1. The tongue | } | by | { | Syffarcofis and Syndef- | |
| 2. The larynx | | | | | mosis. |
| 3. The temporal bones | | | | | |
| 4. The lower jaw | | | | | |
| 5. The scapula | | | | | |
| 6. The sternum | | | | | |

The ATLAS is connected with

- | | | | | |
|-----------------------|---|----|---|-------------------------------|
| 1. The occipital bone | } | by | { | Arthrodia. |
| 2. The epistropheus | | | | Trochoides and Synchondrosis. |

The EPISTROPHEUS is connected with

- | | | | | |
|-----------------------|---|----|---|----------------|
| 1. The occipital bone | } | by | { | Synchondrosis. |
| 2. The atlas | | | | Trochoides. |

The

The CERVICAL VERTEBRÆ are connected with
1. One another by Arthrodia and Synchrondrosis.

The DORSAL VERTEBRÆ are united with
1. One another } by { Synchrondrosis & Syndesmosis.
2. The ribs } by { Ginglymus.

The LUMBAR VERTEBRÆ are connected with
1. One another } by { Synchrondrosis and
2. The last, with the sacrum } by { Syndesmosis.
Synchrondrosis.

The SACRUM is connected with
1. The last lumbar vertebra } by { Synchrondrosis.
2. The os coccygis } by { Synchrondrosis.
3. The ossa innominata } by { Synchrondrosis.

The Os COCCYGIS is connected with
1. The sacrum } by { Synchrondrosis.
2. The ossa innominata } by { Syndesmosis.

The STERNUM is connected with
1. The clavicles } by { Arthrodia.
2. The eight true ribs } by { Synchrondrosis.

The RIBS are connected,
The eight superior with
1. The dorsal vertebræ } by { Ginglymus.
2. The sternum } by { Synchrondrosis.

The four inferior with
1. The dorsal vertebræ } by { Ginglymus.
2. The sternum } by { Syneurosis.

The

The OSSA INNOMINATA are connected with

- | | | |
|--------------------|--------|----------------|
| 1. One another | } by { | Synchondrosis. |
| 2. The sacrum | | Synchondrosis. |
| 3. The os coccygis | | Syneurosis. |
| 4. The thigh-bone | | Enarthrosis. |

The CLAVICLES are connected with

- | | | |
|----------------|--------|----------------|
| 1. The sternum | } by { | Synchondrosis. |
| 2. The scapula | | Arthrodia. |

The SCAPULA is connected with

- | | | |
|-------------------|--------|--------------|
| 1. The clavicle | } by { | Arthrodia. |
| 2. The ribs | | Syffarcosis. |
| 3. The os hyoides | | Syffarcosis. |
| 4. The os humeri | | Arthrodia. |

The Os HUMERI is connected with

- | | | |
|----------------------|--------|------------|
| 1. The scapula | } by { | Arthrodia. |
| 2. The ulna or cubit | | Ginglymus. |
| 3. The radius | | Ginglymus. |

The CUBIT or ULNA is connected with

- | | | |
|----------------------------|--------|-------------|
| 1. The os humeri | } by { | Ginglymus. |
| 2. The radius | | Trochoides. |
| 3. The bones of the carpus | | Arthrodia. |

The RADIUS is connected with

- | | | |
|----------------------------|--------|-------------|
| 1. The os humeri | } by { | Ginglymus. |
| 2. The cubit or ulna | | Trochoides. |
| 3. The bones of the carpus | | Arthrodia. |

The BONES of the CARPUS are connected with

- | | | |
|-------------------------|--------|-----------------|
| 1. One another | } by { | Amphyarthrosis. |
| 2. The radius | | Arthrodia. |
| 3. The cubit or ulna | | Arthrodia. |
| 4. The metacarpal bones | | Amphyarthrosis. |

The

The METACARPAL BONES are connected with

- | | | |
|--|--------|----------------|
| 1. The bones of the carpus | } by { | Amphyarthrosis |
| 2. The 1st phalanx of the fingers | | Arthrodia. |
| 3. That of the thumb with a bone of the carpus | | Arthrodia. |

The PHALANGES of the FINGERS and TOES are thus connected :

- | | |
|--------------------|---|
| 1. The 1st phalanx | } with the second by ginglymus,
metacarpal bones by arthrodia. |
| 2. The 2d phalanx | |
| | } with the first by ginglymus,
with the last by ginglymus. |
| | |

The THIGH BONES are connected with

- | | | |
|------------------------|--------|--------------|
| 1. The ossa innominata | } by { | Enarthrosis. |
| 2. The tibiæ | | Ginglymus. |
| 3. The patellæ | | Ginglymus. |

The PATELLA is connected with

- | | | |
|-------------------|--------|--------------|
| 1. The os femoris | } by { | Ginglymus. |
| 2. The tibia | | Syndesmosis. |

The TIBIA is connected with

- | | | |
|-------------------|--------|--------------|
| 1. The os femoris | } by { | Ginglymus. |
| 2. The fibula | | Syndesmosis. |
| 3. The patella | | Syndesmosis. |
| 4. The astragalus | | Arthrodia. |

The FIBULA is connected with

- | | | |
|-------------------|--------|--------------|
| 1. The tibia | } by { | Syndesmosis. |
| 2. The astragalus | | Arthrodia. |

The BONES of the TARSUS are thus connected:

- | | | |
|--|--------|-----------------|
| 1. With the tibia | } by { | Arthrodia. |
| 2. With the fibula | | Arthrodia. |
| 3. The 3 cuneiform bones with the 5 metatarsal | | Amphyarthrosis. |
| 4. With one another | | Amphyarthrosis. |

The bones of the metatarsus and toes are connected in the same manner as those of the metacarpus and fingers.

SYNDESMOLOGY.

THE parts usually considered in Syndesmology are—The external and internal periosteum, medulla of bones, cartilages, articular glands, synovia, vessels, nerves, and ligaments of the bones.

PERIOSTEUM.

A membrane which invests the external and internal surface of all the bones except the crowns of the teeth. *Names.* *Pericranium* on the cranium—*perorbita* on the orbits—*perichondrium* when it covers cartilages—and *peridesmium* when it covers ligaments. *Substance,* fibrous, furnished with arteries, veins, nerves, and absorbent vessels. *Use,* to distribute the vessels on the external and internal surfaces of bones.

MARROW OF BONES.

A soft, fatty substance contained in the medullary cavities of the great and long bones. *Use.* The oil transudes through the pores into the substance of the bones—gives them strength—and prevents their fragility.

CARTILAGES.

White, elastic, glistening substances, growing to the bones. *Division,* into obducent—inter-articular—and
uniting

uniting cartilages. *Use*, to lubricate the articulation of the cartilages—to connect some bones by an immoveable connection—and to facilitate the motion of some articulations.

SYNOVIA.

An humour similar to serous oil, contained in the cavity of the articulations. *Use*, to lubricate the extremities of the moveable bones—to prevent the concretion of some joints, and the friction of the bones.

ARTICULAR GLANDS.

Small glands situated in the fovea of the articulations and capsular ligaments.

VESSELS OF BONES.

Vessels which run to bones are, *arteries*, *veins*, and *absorbents*. *Use*, to nourish the bone, and secrete the medullary juice—to absorb and carry back to the blood what is superfluous.

NERVES OF BONES.

Nerves enter through the foramina to the internal periosteum, which is sensible.

OF LIGAMENTS.

ELASTIC and strong membranes connecting the extremities of the moveable bones. *Division*, into capsular and connecting ligaments. *Use*. The capsular ligaments

ments connect the extremities of the moveable bones, and prevent the efflux of synovia—the external and internal connecting ligaments strengthen the extremities of the moveable bones.

LIGAMENTS OF THE LOWER JAW.

The condyles of the lower jaw are connected with the articular sinuses of the temporal bone by two ligaments, the capsular and lateral ligament.

LIGAMENTS OF THE OCCIPITAL BONE, AND VERTEBRÆ OF THE NECK.

The condyles of the occipital bone are united with the articular foveæ of the first vertebra by the capsular—broad—anterior—and posterior ligaments—ligament of the odontoid process, and ligamentum nuchæ.

LIGAMENTS OF THE VERTEBRÆ.

The vertebræ are connected together by means of their bodies and oblique apophyses. The bodies by a soft cartilaginous substance, and the apophyses by ligaments, viz. transverse ligament of the first vertebra—anterior and posterior common—interspinous—intertransverse—intervertebral ligaments—capsular ligaments of the oblique processes—ligaments of the last vertebra of the loins with the os sacrum.

LIGAMENTS OF THE RIBS.

The posterior extremity of the ribs is united with the vertebræ; the anterior with the sternum. Ligaments

ments of the posterior extremity are, capsular ligaments of the capitula majora and minora—internal and external ligaments of the neck of the ribs—a ligament peculiar to the last rib. Ligaments of the anterior extremity are, capsular ligaments of the cartilages of the true ribs—ligaments of the ribs *inter se*.

LIGAMENTS OF THE STERNUM.

The ligaments connecting the three portions of the ribs are the membrana propria of the sternum—and ligaments of the ensiform cartilage.

LIGAMENTS OF THE PELVIS.

The ligaments which connect the ossa innominata with the os sacrum are, three ligamenta ileo-sacra—two sacro-ischiadic ligaments—two transverse ligaments of the pelvis—ligamentum obturans of the foramen ovale—ligamentum paupertii, or inguinale.

LIGAMENTS OF THE OS COCCYGIS.

The basis of the os coccygis is connected to the apex of the os sacrum, by the capsular and longitudinal ligaments.

LIGAMENTS OF THE CLAVICLE.

The anterior extremity is connected with the sternum and first rib; and the posterior extremity with the acromion of the scapula, by the inter-articular, capsular ligaments—ligamentum rhomboideum—in the posterior extremity, the capsular ligament.

LIGA-

LIGAMENTS OF THE SCAPULA.

The proper ligaments which connect the scapula with the posterior extremity of the clavicle are—the conoid—and trapezoid ligaments.

LIGAMENTS OF THE HUMERUS.

The head of the humerus is connected with the glenoid cavity of the scapula by the capsular ligament.

LIGAMENTS OF THE ARTICULATION OF THE
CUBIT.

The articulation of the cubit is formed by the inferior extremity of the humerus, and superior extremities of the ulna and radius. The ligaments connecting these bones are—the capsular—brachio-cubital—and brachio-radial ligaments.

LIGAMENTS OF THE RADIUS.

The radius is affixed to the humerus, cubit, and carpus, by peculiar ligaments, namely, the superior—inferior—oblique—and interosseous ligaments.

LIGAMENTS OF THE CARPUS.

The ligaments which connect the eight bones of the carpus together, and with the fore-arm and metacarpus, are—the capsular ligament of the carpus—first and second transverse ligament—oblique ligament—and the capsular ligament proper to the bones of the carpus.

LIGAMENTS OF THE METACARPUS.

The bones of the metacarpus are in part connected with the second order of bones, and in part together, by the articular—and interosseous ligaments.

LIGAMENTS OF THE FINGERS.

The fingers and phalanges are connected together, and with the metacarpus; and the pollex with the carpus, by the lateral ligaments of the fingers—and ligament of the pollex with the os trapezium of the carpus.

LIGAMENTS WHICH KEEP THE TENDONS OF THE MUSCLES OF THE HAND IN THEIR PROPER PLACE.

The ligaments which keep the tendons of the muscles of the hand in their place, are situated partly in the palm, and partly on the back of the hand. In the back of the hand are—the external transverse ligament of the carpus—vaginal—and transverse ligaments of the extensor tendons. In the palm of the hand—the internal transverse ligament of the carpus—vaginal or crucial ligaments of the flexor tendons of the phalanges—and the accessory ligaments of the flexor tendons.

LIGAMENTS OF THE ARTICULATION OF THE FEMUR.

The head of the os femoris is strongly annexed to the acetabulum of the os innominatum by two very strong

strong ligaments—the capsular ligament—and ligamentum teres.

LIGAMENTS OF THE ARTICULATION OF THE KNEE.

The articulation of the knee is formed by the condyles of the os femoris, head of the tibia and patella. The ligaments are the capsular—posterior—external and internal lateral ligaments—crucial and alar ligaments—ligaments of the femilunar cartilages—and ligaments of the patella.

LIGAMENTS OF THE FIBULA.

The fibula is connected with the tibia by means of the capsular ligament of the superior extremity—interosseous ligament—and ligaments of the inferior extremity.

LIGAMENTS OF THE ARTICULATION OF THE TARSUS.

The inferior extremity of the tibia and fibula forms the cavity into which the talus or astragalus of the tarsus is received. This articulation is effected by the anterior—middle—and posterior ligament of the fibula—ligamentum tibiæ deltoides—capsular ligament—and the ligaments proper to the bones of the tarsus.

LIGAMENTS OF THE METATARSUS.

The bones of the metatarsus are connected in part together, and in part with the tarsus, by means of the capsular ligament—articular ligaments—transverse li-

gaments in the back and sole of the foot—and the interosseous ligaments of the metatarsus.

LIGAMENTS OF THE TOES.

The phalanges of the toes are united partly together, and partly with the metatarsus, by the capsular and lateral ligaments.

LIGAMENTS WHICH RETAIN THE TENDONS OF THE MUSCLES OF THE FOOT IN THEIR PROPER PLACE.

These ligaments are found partly in the back and partly in the sole of the foot. They are the vaginal ligament of the tibia—transverse or crucial ligaments of the tarsus—ligaments of the tendons of the peronei muscles—the lacinated ligament—the vaginal ligament of the extensor muscle and flexor pollicis—the vaginal ligaments of the flexor tendons—the accessory ligaments of the flexor tendons—and the transverse ligaments of the extensor tendons.

M Y O L O G Y.

[37]

A MUSCLE is a fibrous body. *Division*, into head—belly—and tail. *Adhesion*, the head and tail are firmly attached to the bones; the body adheres laxly to other parts by means of the cellular membrane. *Substance*, fleshy in the belly, tendinous in the extremities. The former is composed of fleshy fibres, which are irritable and sensible; the latter of white fibres, which are neither sensible nor irritable. When the tendinous extremity of a muscle is rounded, it is called a *tendon*; when broad and expanded, *aponeurosis*. *Vessels*. Arteries, veins, and absorbents abound in the fleshy part; but very few indeed in the tendinous. *Nerves* of muscles are also numerous in the fleshy parts, and wanting in the tendinous. *Use*. Muscles are the organs of motion.

MUSCLES OF THE INTEGUMENTS OF THE CRANIUM.

Name.	Arises from	Inserted into	Use.
<i>Occipito-frontalis</i> *.	The external occipital tubercle.	The skin of the eyebrows.	To pull the skin of the head backwards—raise the eyebrows and skin of the forehead.

Cor-

Name.	Arises from	Inserted into	Use.
<i>Corrugator superciliū</i> †.	Above the root of the nose.	The inner part of the occipito-frontalis.	To draw the eyebrows towards each other, and to wrinkle the forehead.
MUSCLES OF THE EYE-LIDS.			
<i>Orbicularis palpebrarum.</i>	Around the edge of the orbit.	The nasal process of the os maxil. sup.	To shut the eye.
<i>Levator palpebræ superioris.</i>	The bottom of the orbit, near the optic foramen.	The cartilage of the upper eye-lid.	To open the eye.
MUSCLES OF THE EYE-BALL.			
<i>Levator oculi.</i>	Around the optic foramen of the sphenoid bone at the bottom of the orbit.	The anterior part of the tunica sclerotica opposite to each other.	To raise it upwards.
<i>Depressor oculi.</i>			To pull it downwards.
<i>Adductor oculi.</i>			To turn it towards the nose.
<i>Abductor oculi.</i>			To move it outwards.

+ The reader will be pleased to observe, that although all the muscles (a few only excepted which are marked thus *,) are in pairs, mention is made here only of the muscles of one side.

Obliquus superior
feu
Trochlearis.

Near the optic foramen, and passes thro' a trochlea in the internal canthus of the eye, and is reflected to be
The ductus nasalis.

The posterior part of the bulb.

To roll the eye, and turn the pupil downwards and outwards.

Obliquus inferior.

The back part of the eye.

To move it downwards, inwards, and forwards.

MUSCLES OF THE NOSE.

Compressor naris.

The outer part of the root of the ala nasi.

The nasal process of the os maxillare superioris and anterior part of the os nasi.

To compress the ala towards the septum, and to corrugate the skin of the nose.

MUSCLES OF THE MOUTH AND LIPS.

Levator anguli oris.

Under the infraorbital foramen of the superior maxillary bone.

The orbicularis at the angle of the mouth.

To raise the corner of the mouth.

Levator

Name.	Arises from	Inserted into	Use.
<i>Levator labii superioris alæque nasi.</i>	The nasal and orbital processes of the superior maxillary bone.	The upper lip and ala of the nose.	To draw the upper lip and skin of the nose upwards and outwards.
<i>Depressor labii superioris alæque nasi.</i>	The alveoli of the upper incisor teeth.	The root of the alar nasi and upper lip.	To draw the alar nasi and upper lip downwards.
<i>Depressor anguli oris.</i>	The lower edge of the under jaw near the chin.	The angle of the mouth.	To draw the corner of the mouth downwards.
<i>Depressor labii inferioris.</i>	The inferior part of the lower jaw next the chin.	The under lip.	To draw the under lip downwards and outwards.
<i>Levator labii inferioris.</i>	Under the alveoli of the two incisors and the cuspidatus of the under jaw.	The under lip and skin of the chin.	To raise the under lip and skin of the chin.

Buccinator.

The alveoli of the molares of both jaws.

The angle of the mouth.

To contract the mouth and draw the angle of it outwards and backwards.

Zygomaticus major.

The os jugale near the zygomatic future.

The angle of the mouth.

To inflate the cheek and raise the angle of the mouth.

Zygomaticus minor.

Above the zygomaticus major.

The angle of the mouth.

To raise the angle of the mouth obliquely outwards.

Orbicularis oris *.

This muscle is in a great measure formed by the buccinator, zygomatici, and others, which move the lip.

To shut the mouth by contracting the lips.

MUSCLES OF THE LOWER JAW.

Name.	<i>Arises from</i>	<i>Inserted into</i>	<i>Use.</i>
<i>Temporalis.</i>	The lower part of the parietal bone and os frontis — squamous part of the temporal bone—back part of the os jugale—the temporal process of the sphenoid, and the aponeurosis which covers it.	The coronoid process of the lower jaw.	To move the lower jaw upwards.
<i>Masseter.</i>	The superior maxillary bone near its union with the os jugale—and from the anterior part of the zygoma.	The angle of the lower jaw upwards to the basis of the coronoid process.	To raise and move the jaw a little forwards and backwards.

Pterygoideus internus.

The internal plate of the pterygoid process of the sphænoid bone, and the process of the os palati that helps to form the pterygoid fossa.

Pterygoideus externus.

The external ala of the pterygoid process, and a ridge in the temporal process of the superior maxillary bone.

To raise the lower jaw, and draw it a little to one side.

To move the jaw forwards and to the opposite side, and to prevent the ligament of the jaw from being pinched.

The lower jaw on its inner side, and near its angle.

The fore part of the condyloid process of the lower jaw and capsular ligament.

[43]

MUSCLES OF THE EXTERNAL EAR.

Attollens aurem.

The tendon of the occipito-frontalis, above the ear.

The upper part of the ear.

To draw the ear upwards, and make it tense.

Anterior

Name.	Arises from	Inserted into	Use.
<i>Anterior auris.</i>	Near the back part of the zygoma.	The eminence behind the helix.	To raise this eminence, and to pull it forwards.
<i>Retrabentes auris.</i>	The root of the mastoid process, by two and sometimes three fasciculi.	The septum that divides the scapha and concha.	To draw the ear back, and stretch the concha.
<i>Helicis major.</i>	The upper, anterior, and acute part of the helix.	The cartilage of the helix a little above the tragus.	To depress the upper part of the helix.
<i>Helicis minor.</i>	The inferior and anterior part of the helix.	The crus of the helix.	To contract the fissure.
<i>Tragicus.</i>	The outer and middle part of the concha near the tragus.	The upper part of the tragus.	To depress the concha, and pull the point of the tragus a little outwards.
<i>Antitragus.</i>	From the root of the inner part of the helix.	The upper part of the antitragus.	To dilate the mouth of the concha.

Transversus auris.

The upper part of the concha,

The inner part of the helix.

Draws the parts to which it is connected towards each other, and stretches the concha and scapha.

Laxator tympani.

The spinous process of the sphænoid bone.

The long process of the malleus.

To draw the malleus obliquely forwards towards its origin.

Tensor tympani.

The cartilaginous extremity of the Eustachian tube.

The handle of the malleus.

To pull the malleus and membrane of the tympanum towards the petrous portion.

Stapedius.

A little cavern in the petrous portion near the cells of the mastoid process.

The posterior part of the head of the stapes.

To draw the stapes obliquely upwards towards the cavern.

MUSCLES OF THE INTERNAL EAR.

[45]

MUSCLES

MUSCLES WHICH APPEAR ABOUT THE ANTERIOR PART OF THE NECK.

Name.	Arises from	Inserted into	Use.
<i>Musculus cutaneus</i> feu.	The cellular membrane covering the pectoral, deltoid, and trapezius muscles.	The side of the chin and integuments of the cheek.	To draw the cheeks and skin of the face downwards.
<i>Platysma myoides.</i>			
<i>Sterno-cleido-mastoideus.</i>	The upper part of the sternum, and forepart of the clavicle.	The mastoid process, and as far back as the occipital future.	To move the head to one side, and bend it forwards.

[46]

MUSCLES SITUATED BETWEEN THE LOWER JAW AND OS HYOIDES.

<i>Digastricus.</i>	A fossa at the root of the mastoid process.	The lower and anterior part of the chin.	To draw the lower jaw downwards.
<i>Mylo-hyoideus.</i>	Near the symphysis of the chin internally.	The basis of the os hyoides.	To move the os hyoides forwards, upwards, and laterally.
<i>Genio hyoideus.</i>	The inside of the chin.	The basis of the os hyoides.	To move the os hyoides upwards and forwards.

Genio-hyo-glossus.

The inside of the chin.

The tongue and basis of the os hyoides.

To move the tongue in various directions.

Hyo-glossus.

The horn, basis, and appendix of the os hyoides.

Into the tongue laterally.

To draw the tongue downwards and inwards.

Lingualis.

The root of the tongue laterally.

The extremity of the tongue.

To shorten and draw the tongue backwards.

MUSCLES SITUATED BETWEEN THE OS HYOIDES AND TRUNK.

Sterno-hyoideus.

The sternum and clavicle.

The basis of the os hyoides.

To draw the os hyoides downwards.

Omo-hyoideus.

The superior margin of the scapula near the coracoid process.

The basis of the os hyoides.

To draw the os hyoides in an oblique direction downwards.

Sterno-thyroideus.

The upper and inner part of the sternum.

The thyroid cartilage.

To pull the thyroid cartilage downwards.

Thyreo-hyoideus.

Part of the basis and horn of the os hyoides.

A rough line at the side of the thyroid cartilage.

To raise the cartilage, and depress the os hyoides.

Crico-

Name.	Arises from	Inserted into	Use.
<i>Crico-thyroides.</i>	The anterior part and side of the cricoid cartilage.	The inferior horn of the thyroid cartilage.	To pull the thyroid cartilage towards the cricoid.

MUSCLES SITUATED BETWEEN THE LOWER JAW AND OS HYOIDES LATERALLY.

<i>Stylo-glossus.</i>	The apex of the styloid process of the temporal bone.	The side of the root of the tongue.	To move the tongue backwards and laterally.	48
<i>Stylo-hyoideus.</i>	The basis of the styloid process.	The basis of the os hyoides.	To draw the os hyoides obliquely upwards.	
<i>Stylo-pharyngeus.</i>	The basis of the styloid process.	The side of the pharynx, and back of the thyroid cartilage.	To dilate the pharynx, and raise the cartilage.	
<i>Circumflexus</i> feu <i>Tensor palati.</i>	Near the Eustachian tube, and passes thro' the hamulus of the pterygoid apophysis to be	The velum pendulum palati.	To dilate and draw the velum pendulum obliquely downwards.	

Name.	Aries from	Inserted into	Use.
<i>Levator palati.</i>	The petrous portion of the temporal bone, behind the spinous foramen.	The velum pendulum palati.	To pull the velum pendulum backwards.

MUSCLES SITUATED ABOUT THE ENTRY OF THE FAUCES.

Constrictor isthmi faucium. Near the basis of the tongue laterally. The velum pendulum palati. To raise the tongue and draw the velum towards it.

Palato-pharyngeus.

The cartilaginous extremity of the Eustachian tube, the tendon of the circumflexus palati, and velum pendulum palati. The upper and posterior part of the thyroid cartilage. To raise the pharynx and thyroid cartilage, or to pull the velum and uvula downwards and backwards.

Azygos uvulae. * The commissure of the ossa palati. The extremity of the uvula. To shorten the uvula, and raise it up and down.

MUSCLES

MUSCLES SITUATED ON THE POSTERIOR PART OF THE PHARYNX.

Name.	Arises from	Inserted into	Use.
<i>Constrictor pharyngis inferior.</i>	The cricoid and thyroid cartilages.	The middle of the pharynx.	To compress part of the pharynx.
<i>Constrictor pharyngis medius.</i>	The horns, and appendix of the os hyoides.	The ambit of the pharynx.	To compress the pharynx, and draw it and the os hyoides upwards.
<i>Constrictor pharyngis superior.</i>	The pterygoid processes, the lower jaw near the last molares, and the basilar processes of the os occipitis.	The middle of the pharynx.	To move the pharynx upwards and forwards, and to compress its upper part.

MUSCLES SITUATED ABOUT THE GLOTTIS.

<i>Crico arytenoideus posterior.</i>	The cricoid cartilage posteriorly.	The basis of the arytenoid cartilage posteriorly.	To open the glottis.
--------------------------------------	------------------------------------	---	----------------------

*Crico-arytænoides
lateralis.*

The side of the cricoid cartilage.

The side of the basis of the arytænoid cartilage.

To open the glottis.

Thyreo-arytænoides.

The posterior part of the thyroid cartilage.

The arytænoid cartilage.

To draw the arytænoid cartilage forward.

Arytænoides obliquus.

The basis of one of the arytænoid cartilages.

The extremity of the other arytænoid cartilage.

To draw them towards each other.

[*Arytænoides transversus.**]

One of the arytænoid cartilages laterally.

The other arytænoid cartilage laterally.

To shut the glottis.

Thyreo-epiglottideus.

The thyroid cartilage.

The side of the epiglottis.

To pull the epiglottis obliquely downwards.

Arytæno-epiglottideus.

The upper part of the arytænoid cartilage laterally.

The side of the epiglottis.

To move the epiglottis outwards.

MUSCLES

MUSCLES SITUATED ON THE ANTERIOR PART OF THE ABDOMEN.

Name.	Arises from	Inserted into	Use.
<i>Obliquus descendens externus.</i>	The lower edges of the eight inferior ribs near their cartilages.	The linea alba †, ossa pubis, and spine of the ilium ‡.	To compress the abdomen.
<i>Obliquus ascendens internus.</i>	The spinous processes of the three last lumbar vertebræ, back of the sacrum, and spine of the ilium.	The cartilages of all the false ribs, linea alba, and pubis.	To compress the abdomen.
<i>Transversalis.</i>	The cartilages of the seven lower ribs, and the transverse processes of the first four lumbar vertebræ.	The linea alba, and ensiform cartilage.	To compress the abdominal viscera.

† A long, but narrow, tendinous, expansion which reaches from the cartilago ensiformis of the sternum down to the middle of the pubis.

‡ In this course it forms Poupart's ligament.

Rectus abdominis.

The upper edge and symphysis of the pubis.

The ensiform cartilage, and the cartilages of the 5th, 6th, and 7th rib.

To compress the fore-part of the abdomen, and bend the trunk forwards.

Pyramidalis.

The anterior and upper part of the pubis.

The linea alba below the umbilicus.

To assist the lower portion of the rectus.

MUSCLES ABOUT THE MALE ORGANS OF GENERATION.

Dartos. *

By some said to be a muscle: it appears, however, to be no more than a condensation of cellular membrane lining the scrotum, which admits of being corrugated and relaxed.

Cremaster.

The inguinal ring & Poupart's ligament.

The tunica vaginalis of the testicle.

To draw up the testicle.

Erector penis.

The tuberosity of the ischium, embraces one crus of the penis.

A strong tendinous membrane that covers the corpora cavernosa.

To compress the urethra.

Accelerator urinæ
feu

The sphincter of the anus, and above the bulb of the urethra.

To compress the urethra.

Ejaculator seminis.

Trans-

MUSCLES SITUATED ON THE ANTERIOR PART OF THE ABDOMEN.

Name.	Arises from	Inserted into	Use.
<i>Obliquus descendens externus.</i>	The lower edges of the eight inferior ribs near their cartilages.	The linea alba †, ossa pubis, and spine of the ilium ‡.	To compress the abdomen.
<i>Obliquus ascendens internus.</i>	The spinous processes of the three last lumbar vertebræ, back of the sacrum, and spine of the ilium.	The cartilages of all the false ribs, linea alba, and pubis.	To compress the abdomen.
<i>Transversus.</i>	The cartilages of the seven lower ribs, and the transverse processes of the first four lumbar vertebræ.	The linea alba, and ensiform cartilage.	To compress the abdominal viscera.

† A long, but narrow, tendinous, expansion which reaches from the cartilago ensiformis of the sternum down to the middle of the pubis.

‡ In this course it forms Poupart's ligament.

Rectus abdominis.

The upper edge and symphysis of the pubis.

The ensiform cartilage, and the cartilages of the 5th, 6th, and 7th rib.

To compress the fore-part of the abdomen, and bend the trunk forwards.

Pyramidalis.

The anterior and upper part of the pubis.

The linea alba below the umbilicus.

To assist the lower portion of the rectus.

MUSCLES ABOUT THE MALE ORGANS OF GENERATION.

Dartos. *

By some said to be a muscle: it appears, however, to be no more than a condensation of cellular membrane lining the scrotum, which admits of being corrugated and relaxed.

Cremaster.

The inguinal ring & Poupart's ligament.

The tunica vaginalis of the testicle.

To draw up the testicle.

Erector penis.

The tuberosity of the ischium, embraces one crus of the penis.

A strong tendinous membrane that covers the corpora cavernosa.

To compress the urethra.

Accelerator urinæ
feu

The sphincter of the anus, and above the bulb of the urethra.

The line in the middle of the bulb.

To compress the urethra.

Ejaculator seminis.

Trans-

Name.	Arises from	Inserted into	Use.
<i>Transversus perinæi.</i>	The fatty membrane covering the tuberosity of the ischium.	The accelerator urinæ, and sphincter ani.	To dilate the bulb of the urethra †.

MUSCLES OF THE ANUS.

<i>Sphincter ani.*</i>	The skin and fat surrounding the anus on both sides.	The perinæum, acceleratores urinæ, and transversus perinæi.	To shut the passage through the anus into the rectum.
<i>Levator ani.</i>	The internal surface of the pubis, ilium, and ischium, in a radiated manner.	The sphincter ani, acceleratores urinæ, and os coccygis; and surrounds the rectum, neck of the bladder, &c. like a funnel.	To draw the rectum up after dejection, and to assist in shutting it.

MUSCLES OF THE FEMALE ORGANS OF GENERATION.

<i>Erector clitoridis.</i>	The crus of the ischium internally.	The upper part of the crus and body of the clitoris.	To draw the clitoris downwards, and make it tense.
----------------------------	-------------------------------------	--	--

* + There is often another muscle behind this, called *Transversus perinæi alter*. It assists the former.

Sphincter vaginae.

The sphincter ani,
and side of the vagina
which it surrounds.

The union of the
crura clitoridis.

To contract the
mouth of the vagina.

MUSCLES SITUATED WITHIN THE PELVIS.

Obturator internus.

The circumference
of the foramen ovale.

A large pit, between
the trochanters of the
femur.

To roll the femur
obliquely outwards.

Coccygeus.

The spinous process
of the ilchium.

The extremity of
the sacrum and coc-
cygis.

To move the coccyx
forwards and inwards.

MUSCLES SITUATED WITHIN THE CAVITY OF THE ABDOMEN.

*Diaphragma.**

Described in SPLANCHNOLOGY.

Quadratus lumborum.

The posterior part
of the spine of the
ilium

The transverse apo-
physes of the loins and
last spurious rib.

To support the spine
and draw it to one
side.

Psoas parvus.

The transverse pro-
cess of the last dorsal
vertebra.

The brim of the
pelvis.

To bend the loins
forwards.

Psoas

Name.	Arises from	Inserted into	Use.
<i>Psoas magnus.</i>	The bodies and processes of the last dorsal and all the lumbar vertebræ.	The os femoris, a little below the trochanter minor.	To bend the thigh forwards.
<i>Iliacus internus.</i>	The internal surface of spine of the ilium.	The femur in common with the psoas magnus.	To assist the psoas magnus.

MUSCLES SITUATED ON THE ANTERIOR PART OF THE THORAX.

<i>Pectoralis major.</i>	The clavicle, sternum, and seven true ribs.	The upper and inner part of the humerus.	To draw the arm forwards, or obliquely forwards.
<i>Subclavius.</i>	The cartilage of the first rib.	The under surface of the clavicle.	To move the clavicle downwards and forwards.
<i>Pectoralis minor.</i>	The upper edges of the 3d, 4th, and 5th ribs.	The coracoid process of the scapula.	To move the scapula forwards and downwards.
<i>Serratus magnus.</i>	The eight superior ribs.	The basis of the scapula.	To bring the scapula forwards.

MUSCLES SITUATED BETWEEN THE RIBS AND WITHIN THE THORAX.

<i>Intercostales externi.</i>	The lower edge of each upper rib, and transverse processes of their vertebræ.	The superior edge of each lower rib.	To elevate the ribs.
<i>Intercostales interni.</i>	Like the former.		
<i>Triangularis</i> feu	The middle and inferior part of the sternum.	The cartilages of the five last true ribs.	To depress the cartilages of the ribs.
<i>Sterno-costalis.</i>			

MUSCLES SITUATED ON THE ANTERIOR PART OF THE NECK CLOSE TO THE VERTEBRÆ.

<i>Longus colli.</i>	The bodies of the three superior vertebræ of the back.	The anterior tubercle of the atlas.	To pull the neck to one side.
<i>Rectus capitis internus major.</i>	The transverse processes of the five last cervical vertebræ.	The fore part of the basilar process of the os occipitis.	To bend the head forwards.
<i>Rectus capitis internus minor.</i>	The transverse processes of the first cervical vertebra.	The os occipitis near the condyloid process.	To assist the former.

Rectus

Name.	Arises from	Inserted into	Use.
<i>Rectus capitis lateralis.</i>	The transverse processes of the first cervical vertebra.	The os occipitis near the mastoid process.	To move the head to one side.
MUSCLES SITUATED ON THE POSTERIOR PART OF THE TRUNK.			
<i>Trapezius</i> feu <i>Cucullaris.</i>	The os occipitis and the spinous processes of all the vertebræ of the neck and back.	The clavicle, part of the acromion, and the spine of the scapula.	To move the scapula, neck, and head.
<i>Latissimus dorsi.</i>	The spine of the ilium, spinous processes of the sacrum, lumbar and inferior dorsal vertebræ; and from the four inferior false ribs near their cartilages.	The os humeri, between its two tuberosities in the edge of the groove for the tendon of the biceps muscle.	To draw the os humeri backwards, and to roll it upon its axis.

<i>Serratus posterior inferior.</i>	The spinous processes of the two last dorsal and three lumbar vertebræ.	The lower edge of the three or four lowermost ribs near their cartilages.	To draw the ribs outwards, downwards, and backwards.
-------------------------------------	---	---	--

Rhomboidens.

The spinous processes of the four last cervical, and four first dorsal vertebræ.

The basis of the scapula.

To move the scapula upwards and backwards.

Splenius.

The spinous process of the last cervical, and four superior dorsal vertebræ.

The transverse processes of the two first cervical, and the side of the os occipitis.

To move the head backwards.

*Serratus superior
posticus.*

The spinous processes of the two last cervical, and two superior dorsal vertebræ.

To expand the thorax.

Spinalis dorsi.

The spinous processes of the last dorsal, and first lumbar vertebræ.

The spinous processes of the nine superior dorsal vertebræ.

To extend the vertebræ.

Sacro-

Name.	Arises from	Inserted into	Use.
<i>Rectus capitis lateralis.</i>	The transverse processes of the first cervical vertebra.	The os occipitis near the mastoid process.	To move the head to one side.

MUSCLES SITUATED ON THE POSTERIOR PART OF THE TRUNK.

Trapezius
feu
Cucullaris.

The os occipitis and the spinous processes of all the vertebræ of the neck and back.

The clavicle, part of the acromion, and the spine of the scapula.

To move the scapula, neck, and head.

Latissimus dorsi.

The spine of the ilium, spinous processes of the sacrum, lumbar and inferior dorsal vertebræ; and from the four inferior false ribs near their cartilages.

The os humeri, between its two tuberosities in the edge of the groove for the tendon of the biceps muscle.

To draw the os humeri backwards, and to roll it upon its axis.

Serratus posterior inferior.

The spinous processes of the two last dorsal and three lumbar vertebræ.

The lower edge of the three or four lowermost ribs near their cartilages.

To draw the ribs outwards, downwards, and backwards.

Rhomboidens.

The spinous processes of the four last cervical, and four first dorsal vertebræ.

The basis of the scapula.

To move the scapula upwards and backwards.

Splenius.

The spinous process of the last cervical, and four superior dorsal vertebræ.

The transverse processes of the two first cervical, and the side of the os occipitis.

To move the head backwards.

*Serratus superior
posticus.*

The spinous processes of the two last cervical, and two superior dorsal vertebræ.

To expand the thorax.

Spinalis dorsi.

The spinous processes of the last dorsal, and first lumbar vertebræ.

The spinous processes of the nine superior dorsal vertebræ.

To extend the vertebræ.

Sacro-

Name.	<i>Arises from</i>	<i>Inserted into</i>	<i>Use.</i>
<i>Sacro-lumbalis.</i>	The sacrum, spine of the ilium, and the spinous and transverse processes of the lumbar vertebrae.	The lower edge of each rib.	To draw the ribs downwards, to move the body upon its axis, to assist in erecting the trunk, and to turn the neck backwards or to one side.
<i>Longissimus dorsi.</i>	The same parts as the former.	The transverse processes of the dorsal vertebrae.	To stretch the vertebrae of the back, and keep the trunk erect.
<i>Complexus.</i>	The transverse processes of the six inferior cervical, and three superior dorsal vertebrae.	The middle of the os occipitis.	To draw the head backwards.
<i>Trachelo-mastoidcus.</i>	The transverse processes of the five inferior cervical, and three superior dorsal vertebrae.	The os occipitis behind the mastoid processes of the temporal bone.	To draw the head backwards.

Levator scapulæ.

The transverse processes of the four superior cervical vertebræ.

The upper angle of the scapula.

To move the scapula forwards and upwards.

Semi-spinalis dorsi.

The transverse processes of the 7th, 8th, 9th, and 10th dorsal vertebræ.

The spinous processes of the four superior dorsal, and the last cervical vertebræ.

To extend the spine obliquely backwards.

Multifidus spinæ.

The os sacrum, ilium, oblique and transverse processes of the lumbar, the transverse of the dorsal and four cervical vertebræ.

To extend the back and draw it backwards or to one side.

Semi-spinalis colli.

The transverse processes of the five or six superior dorsal vertebræ.

The spinous processes of the 2d, 3d, 4th, 5th, and 6th cervical vertebræ.

To stretch the neck obliquely backwards.

Transversalis colli.

The transverse processes of the five uppermost dorsal vertebræ.

The transverse processes of all the cervical, except the first and last.

To turn the neck obliquely backwards and to one side.

Rectus.

Name.	Arises from	Inserted into	Use.
<i>Rectus capitis posterior major.</i>	The spinous process of the second cervical vertebra.	The os occipitis.	To extend the head and draw it backwards.
<i>Rectus capitis posterior minor.</i>	The first vertebra of the neck.	The os occipitis.	To assist the <i>rectus major</i> .
<i>Obliquus capitis superior.</i>	The transverse processes of the first cervical vertebra.	The os occipitis.	To draw the head backwards.
<i>Obliquus capitis inferior.</i>	The spinous process of the 2d cervical vertebra.	The transverse processes of the first cervical vertebra.	To draw the face to one side, & to move the 1st vertebra upon the 2d
<i>Scalenus.</i>	All the transverse processes of the cervical vertebrae.	Upper and outer part of the first and second ribs.	To move the neck forwards or to one side.
<i>Interspinales.</i>	Between the spinous processes of the six inferior cervical vertebrae.	The spinous processes of the vertebrae above.	To draw the spinous processes towards each other.
<i>Inter-transversales.</i>	Between the transverse processes of the vertebrae.	The transverse processes of the vertebrae above.	To draw the transverse processes towards each other.

MUSCLES OF THE SUPERIOR EXTREMITIES.

Supra-spinatus.

The basis, spine, and upper costa of the scapula.

A large tuberosity at the head of the os humeri.

To raise the arm.

Infra spinatus.

The basis and spine of the scapula.

The upper and middle part of the tuberosity of the humerus.

To roll the os humeri outwards.

Teres minor.

The inferior costa of the scapula.

The tuberosity of the humerus.

To assist the former.

Teres major.

The inferior angle and costa of the scapula.

The side of the groove for the long tendon of the biceps.

To assist in rotating the arm.

Deltoides.

The clavicle, and the acromion and spine of the scapula.

The anterior and middle part of the os humeri.

To raise the arm.

Coraco-brachialis.

The coracoid process of the scapula.

The middle and inner side of the os humeri.

To roll the arm forwards and upwards.

Subscapularis.

The basis, superior and inferior costa of the scapula.

The protuberance at the head of the os humeri.

To roll the arm inwards.

MUSCLES

MUSCLES SITUATED ON THE OS HUMERI.

Name.	Arises from	Inserted into	Use.
<i>Biceps flexor cubiti.</i>	Two heads, one from the coracoid process, the other, called the long head, from the edge of the glenoid cavity of the scapula.	The tuberosity at the upper end of the radius.	To bend the fore-arm.
<i>Brachialis internus.</i>	The os humeri at each side of the tendon of the deltoides.	The coronoid process of the ulna.	To assist in bending the fore-arm.
<i>Triceps extensor cubiti.</i>	The neck of the scapula, and the neck and middle of the humerus.	The upper and outer part of the olecranon.	To extend the fore-arm.
<i>Anconeus.</i>	The external condyle of the humerus.	The upper part of the ulna.	To assist in extending the fore-arm.

MUSCLES SITUATED ON THE FORE-ARM.

Supinator radii longus.

The external condyle of the humerus.

To assist in turning the palm of the hand upwards.

Extensor carpi radialis longior.

The external condyle of the humerus.

The upper part of the metacarpal bone of the fore-finger. To extend the wrist.

Extensor carpi radialis brevior.

The external condyle of the humerus and upper part of the radius.

The upper part of the metacarpal bone of the middle finger. To assist the former.

Extensor digitorum communis.

The external condyle of the os humeri.

The back part of all the bones of the four fingers. To extend the fingers.

Extensor carpi ulnaris.

The outer condyle of the os humeri.

To assist in extending the wrist.

Flexor carpi ulnaris.

The internal condyle of the os humeri and olecranon.

To assist in bending the hand.

Palmaris

Name.	Arises from	Inserted into	Use.
<i>Palmaris longus.</i>	The internal condyle of the os humeri.	The internal annular ligament and aponeurosis of the hand.	To bend the hand.
<i>Flexor carpi radialis.</i>	The internal condyle of the os humeri.	The metacarpal bone of the fore-finger.	To bend the hand.
<i>Pronator radii teres.</i>	The internal condyle of the os humeri and coronoid process of the ulna.	The anterior and convex edge of the radius, near its middle.	To roll the hand inwards.
<i>Supinator radii brevis.</i>	The external condyle of the os humeri, and outer edge of the ulna.	The anterior, inner, and upper part of the radius.	To roll the radius outwards.
<i>Extensor ossis metacarpi pollicis manus.</i>	The middle of the ulna, interosseous ligament, and radius.	The os trapezium, and first bone of the thumb.	To stretch the first bone of the thumb outwards.
<i>Extensor primi internodii.</i>	Near the middle of the ulna, interosseous ligament, and radius.	The convex part of the second bone of the thumb.	To extend the second bone of the thumb outwards.

<i>Extensor secundus internodii.</i>	The back of the ulna and interosseous ligament.	The third and last bone of the thumb.	To stretch the thumb obliquely backwards.
<i>Indicator.</i>	The middle of the ulna.	The metacarpal bone of the fore-finger.	To extend the fore-finger.
<i>Flexor sublimis perforatus.</i>	The inner condyle of the os humeri, coronoid process of the ulna, and upper part of the radius.	The second bone of each finger.	To bend the second joint of the fingers.
<i>Flexor profundus perforans.</i>	The upper part of the ulna, and interosseous ligament.	The fore part of the last bone of each of the fingers.	To bend the last joint of the fingers.
<i>Flexor longus pollicis manus.</i>	The upper and fore part of the radius.	The last joint of the thumb.	To bend the last joint of the thumb.
<i>Pronator radii quadratus.</i>	The inner and lower part of the ulna.	The radius opposite to its origin.	To roll the radius inwards.

MUSCLES

MUSCLES SITUATED CHIEFLY ON THE HAND.

Name.	Arises from	Inserted into	Use.
<i>Lumbricales.</i>	The tendons of the flexor profundus.	The tendons of the extensor digitorum communis.	To bend the first and to extend the two last joints of the fingers.
<i>Flexor brevis pollicis manûs.</i>	The os trapezoides, internal annular ligament, os magnum and unciforme.	The ossa sesamoidea and second bone of the thumb.	To bend the second joint of the thumb.
<i>Flexor ossis metacarpi pollicis, seu oppositens pollicis.</i>	The inner and anterior part of the internal annular ligament, and os trapezium.	The first bone of the thumb.	To bring the thumb inwards, opposite to the other fingers.
<i>Abductor pollicis manûs.</i>	The ligamentum carpi annulare, and os trapezium.	The root of the first bone of the thumb.	To draw the thumb from the fingers.
<i>Adductor pollicis manûs.</i>	The metacarpal bone of the middle finger.	The root of the first bone of the thumb.	To pull the thumb towards the fingers.

*Abductor indicis
manus.*

The first bone of the thumb, and os trapezium.

The first bone of the fore-finger posteriorly.

To move the fore-finger towards the thumb.

Palmaris brevis.

The internal annular ligament, and aponeurosis of the hand.

The os pisiforme, and skin covering the abductor minimi digiti.

To contract the palm of the hand.

*Abductor minimi
digiti manus.*

The internal annular ligament, and os pisiforme.

The side of the first bone of the little finger.

To draw the little finger from the rest.

3

*Adductor metacarpi
minimi digiti manus.*

The os unciforme, and ligamentum annulare.

The metacarpal bone of the little finger.

To move that bone towards the rest.

Flexor parvus minimi digiti.

The internal annular ligament, and os pisiforme.

The side of the first bone of the little finger.

To draw the little finger from the rest.

*Interossei interni
and
Interossei externi.*

Between the metacarpal bones.

To extend the fingers, and move them towards the thumb.

MUSCLES

MUSCLES OF THE INFERIOR EXTREMITIES.

Name.	Arises from	Inserted into	Use.
<i>Pectinalis.</i>	The anterior edge of the os pubis.	The upper part of the linea aspera of the femur.	To bend the thigh.
<i>Triceps adductor femoris.</i>	<i>Adductor longus femoris.</i>	The upper and fore part of the pubis.	To bend the thigh.
	<i>Adductor brevis femoris.</i>	The fore part and ramus of the os pubis.	To bend the thigh, and move it inwards.
	<i>Adductor magnus femoris.</i>	The lower and fore part of the ramus of the pubis.	To move the thigh inwards, and assist in bending it.
<i>Obturator externus.</i>	The obturator ligament, and half of the foramen ovale of the os innominatum.	The femur near the root of the great trochanter.	To move the thigh obliquely outwards, and prevent the cap. lig. from being pinched.

<i>Gluteus maximus.</i>	The spine of the ilium, posterior sacro-ischiatic ligaments, os sacrum and os coccygis.	The upper part of the linea aspera of the femur.	To extend the thigh, and assist in its rotatory motion.
<i>Gluteus medius.</i>	The spine and superior surface of the ilium.	The great trochanter of the os femoris.	To assist the gluteus maximus.
<i>Gluteus minimus.</i>	The outer surface of the ilium and border of its great notch.	The great trochanter.	To assist the two former.
<i>Pyriformis.</i>	The anterior part of the os sacrum.	A cavity at the root of the great trochanter.	To roll the thigh outwards.
<i>Gemini.</i>	The spine and tuberosity of the ischium and posterior sacro-ischiatic ligament.	The same cavity as the pyriformis.	To roll the thigh outwards, and preserve the tendon of the obturator internus.
<i>Quadratus femoris.</i>	The tuberosity of the ischium.	A ridge between the two trochanters.	To move the thigh outwards.

MUSCLES

MUSCLES SITUATED ON THE THIGH.

Name.	Arises from	Inserted into	Use.
<i>Tensor vaginæ femoris.</i>	The spinous process of the ilium.	The inner side of the membranous fascia which covers the thigh.	To stretch the fascia.
<i>Sartorius.</i>	The superior and anterior spinous processes of the ilium. The fore part of the ischium and pubis.	The upper and inner part of the tibia.	To bend the leg inwards.
<i>Gracilis.</i>	The anterior and inferior spinous processes of the ilium, and posterior edge of the acetabulum.	The upper and inner part of the tibia.	To bend the leg.
<i>Rectus.</i>	The root of the great trochanter, and linea aspera.	The upper and fore part of the patella.	To extend the leg.
<i>Vastus externus.</i>	The inner edge of the linea aspera.	The upper and lateral part of the patella.	To extend the leg.
<i>Vastus internus.</i>			

<i>Cruralis.</i>	The anterior part of the lesser trochanter.	The upper part of the patella.	To extend the leg.
<i>Semi-tendinosus.</i>	The tuberosity of the ischium.	The upper and inner part of the tibia.	To bend and draw the leg inwards.
<i>Semi-membranosus.</i>	The tuberosity of the ischium.	The back part of the head of the tibia.	To bend the leg.
<i>Biceps flexor cruris.</i>	The tuberosity of the ischium and linea aspera.	The upper and back part of the tibia, forming the <i>outer hamstring</i> .	To bend the leg.

<i>Popliteus.</i>	The external condyle of the thigh.	The upper and inner part of the tibia.	To assist in bending the leg and rolling it inwards.
-------------------	------------------------------------	--	--

MUSCLES SITUATED ON THE LEG.

<i>Gastrocnemius externus</i> feu <i>Gemellus.</i>	The internal and external condyle of the femur.	A tendon common to this muscle and the following.	To extend the foot.
<i>Gastrocnemius internus</i> feu <i>Soleus.</i>	The head of the fibula, and back part of the head of the tibia.	The os calcis, by a tendon (<i>tendo achillis</i>) formed by that of the former and this muscle.	To extend the foot.
			<i>Plantaris.</i>

Name.	Arises from	Inserted into	Use.
<i>Plantaris.</i>	The upper and posterior part of the outer condyle of the os femoris.	The inside of the back part of the os calcis.	To assist in extending the foot.
<i>Tibialis anticus.</i>	The upper and fore part of the tibia.	The os cuneiform internum.	To bend the foot.
<i>Tibialis posticus.</i>	The back part of the tibia, interosseous ligament, and adjacent part of the fibula.	The middle cuneiform bone, and upper part of the os naviculare.	To move the foot inwards.
<i>Peroneus longus.</i>	The head of the tibia externally, and upper anterior and outer part of the fibula.	The metatarsal bone of the great toe.	To move the foot outwards.
<i>Peroneus brevis.</i>	The outer and fore part of the fibula.	The metatarsal bone of the little toe.	To assist the peroneus longus.
<i>Extensor longus digitorum pedis.</i>	The upper part of the tibia, interosseous ligament, and inner edge of the fibula.	The first joint of the smaller toes by four tendons.	To extend the toes.

<i>Extensor proprius pollicis pedis.</i>	The upper and fore part of the tibia.	The convex surface of the bones of the great toe.	To extend the great toe.
<i>Flexor longus digitorum pedis</i> †, <i>profundus, perforans.</i>	The upper and inner part of the tibia.	The last bones of all the toes, except the great toe, by 4 tendons.	To bend the last joint of the toes.
<i>Flexor longus pollicis pedis.</i>	The back part, and a little below the head of the fibula.	The last bone of the great toe.	To bend the great toe.

MUSCLES CHIEFLY SITUATED ON THE FOOT.

<i>Extensor brevis digitorum pedis.</i>	The upper and anterior part of the os calcis.	By 4 tendons, one of which joins the tendon of the ext. long. pollicis, and the other three the tendons of the extens. digit. long.	To extend the toes.
---	---	---	---------------------

† The tendons of this muscle pass through the perforations in those of the flexor digitorum brevis. There is about the middle of the foot a fleshy mass which unites with this muscle, called after Jacobus Sylvius, who first described it.

Flexor

Name.	Arises from	Inserted into	Use.
<i>Flexor brevis digitorum pedis, perforatus, sublimis.</i>	The lower part of the os calcis.	The 2d phalanx of each of the small toes, by four tendons which afford a passage to those of the flex. long. dig. ped.	To bend the second joint of the toes.
<i>Lumbricales pedis.</i>	The tendons of the flexor longus digitorum pedis.	The tendinous expansion at the upper part of the toes.	To draw the toes inwards.
<i>Flexor brevis pollicis pedis.</i>	The anterior part of the os calcis, and inferior part of the external cuneiform bone.	The first joint of the great toe by two tendons.	To bend the first joint of the great toe.
<i>Abductor pollicis pedis.</i>	The inner and lower part of the os calcis.	The first joint of the great toe.	To move the great toe from the rest.
<i>Adductor pollicis pedis.</i>	Near the roots of the metatarsal bones of the 2d, 3d, and 4th toes.	The outer sesamoid bone, or first joint of the great toe.	To draw the great toe nearer to the rest, and to bend it.

Abductor minimi digiti pedis.

The tuberosity of the os calcis, and the metatarsal bone of the little toe.

To draw the little toe outwards.

Flexor brevis minimi digiti pedis.

The basis of the metatarsal bone of the little toe.

To bend the little toe.

Transversales pedis.

The metatarsal bone of the little toe.

The inner sesamoid bone, and metatarsal bone of the great toe.

To contract the foot.

Interossei pedis interni.

Interossei pedis externi.

Between the metatarsal bones.

To draw the smaller toes towards the great toe, and assist in extending the toes,

B U R S A L O G Y.

BURSÆ mucosæ are mucous bags composed of a proper membrane, containing a kind of mucous fat, formed by the exhalant arteries of the internal membrane. They are of different sizes and firmness. *Connection*, here and there by cellular membrane with the membrane of the articular cavities, tendons, or ligaments. *Internal surface*, glabrous and vascular. *Situation*, various. *Division*, into vaginal and vesicular. *Use*, to lubricate the muscles, bones, and tendons.

BURSÆ MUCOSÆ OF THE HEAD.

Bursa mucosa of the musc. obliquus superior. *Bursa mucosa* of the digastric muscle. *Bursa mucosa* of the circumflexus, or tensor palati. *Bursa mucosa* of the musc. sterno-hyoideus, situated between the os hyoides and larynx.

BURSÆ MUCOSÆ OF THE ARTICULATION OF THE HUMERUS.

Bursa acromialis externa, situated under the acromion. *Bursa acromialis interna*, situated above the infraspinatus muscle. *Bursa coracoidea*, situated near the coracoid process. *Bursa claviculæ*, situated where

where the clavicle touches the coracoid process. *Bursa subclavia*, between the subclavius muscle and first rib. *Bursa coraco-brachialis*, between this muscle and the biceps. *Bursa pectoralis majoris*, between this muscle and the biceps. *Bursa teris majoris externa*, under the head of os humeri. *Bursa teris majoris interna*, found within the muscle, where the fibres of its tendon diverge. *Bursa latissimi dorsi*, between the tendon of this muscle and os humeri.

There are other bursæ about the humerus, but their situation is uncertain.

BURSÆ OF THE ARTICULATION OF THE CUBIT OF ELBOW JOINT.

Bursa radio-bicipitalis, situated between the tendon of the biceps flexor cubiti and radius. *Bursa cubito-radialis*, between the biceps, supinator brevis, and ulna. *Bursa anconeæ*, between the olecranon and anconeus muscle. *Bursa capitulo-radialis*, between the tendon of the extensor carpi radialis, and extensor communis digitorum.

There are other bursæ to be found in this part, but they are uncertain.

BURSÆ IN THE INFERIOR PART OF THE CUBIT AND HAND.

The *Bursæ mucosæ* about the wrist and hand are very numerous, and their situation uncertain: but as they are connected with the tendons of these parts, their

their names only are inserted, which are taken from the tendons to which they attached : Hence *Bursa flexoria pollicis seu externa*—*Bursa flexoria media*—*Bursa flexoria digitorum inferior*—*Bursa flexoria digitorum superior*—*Bursa flexoria interna*—*Bursa radialis interna*—*Bursa ulnaris interna*—*Bursa abductoris pollicis*—*Bursa radialis externa communis superior*—*Bursa radialis externa communis inferior*—*Bursa extensoris pollicis longi inferior*—*Bursa extensoria digitorum indicis medii et annularis*—*Bursa extensoria digiti minimi*—*Bursa ulnaris externa*.

There are also bursæ situated between the muscoli lumbricales and interossei.

BURSÆ OF THE ARTICULATIONS OF THE FEMUR.

Bursa ileo-puberalis, between the iliacus internus, psoas magnus, and capsular ligament of the femur. *Bursa gluteo-fascialis*, between the glutæus maximus and vastus externus. *Bursa genualis anterior*, between the sartorius, gracilis and semi-tendinosus. *Bursa genualis posterior*, between the semi-membranosus and gastrocnemius. *Bursa poplitea*, between the musculus popliteus, os femoris, and tibia. *Bursa bicipitis cruris*, between the biceps cruris and ligament of the knee.

BURSÆ OF THE EXTREMITY OF THE FOOT.

The *Bursæ mucosæ* found about the tarsus, metatarsus and toes, are, like those of the wrist and hand,
very

very numerous. The following are the principal :—
*Bursa calcanea—Bursa musculi tibialis antici—Bursa
 extensoris pollicis longi—Bursa extensoris digitorum com-
 munis—Bursa peronea communis—Bursa musc. peronei
 longi—Bursa musc. peronei brevis—Bursa flexoris polli-
 cis longi superior—Bursa musc. tibialis postici—Bursa
 flexoria digitorum profunda—Bursa flexoris pollicis pe-
 dis longi inferior—Bursæ flexoriæ sublimes.*

For further information on this head, the Author refers the Student to the following works :

FOURCROY Memoire des Tendons, dans lequel on s'occupe spécialement de leurs Capsules muqueuses, dans *L'Hist. de l'Acad. Royale des Sciences* ; Paris, 1785. 1787.

MONRO'S Description of all the Bursæ Mucosæ of the Human Body, with plates as large as life. *Edinb.* 1788. folio.

CH. M. KOCH Diff. Anat. Physiol. de Bursis Tendinum mucosis. *Lips.* 1789, quarto.

ANGIOLOGY.

VESSELS are long membranous canals, which carry blood or other fluids. *Division*, into arteries—veins—and absorbents. *Situation*, except the epidermis, membrana arachnoidea and nails, every part of the body has vessels.

OF THE ARTERIES IN GENERAL.

ARTERIES are membranous canals, which pulsate. In general they become narrower as they proceed from the heart towards the extremities. *Origin*, from the ventricles of the heart—namely, the pulmonary artery from the right, and the aorta from the left ventricle; thus there are only two arteries, of which the rest are branches. *Termination*, in veins, exhaling vessels, or they anastomose with one another. *Composed* of three membranes—external or common—middle or muscular—and inner or smooth. *Use*, to convey blood from the heart to the different parts of the body, for nutrition—preservation of life—generation of heat—and the secretion of different fluids.

THE SYSTEM OF THE AORTA.

The *aorta* arises from the left ventricle of the heart, forms an arch towards the dorsal vertebræ, then descends through the opening of the diaphragm into the abdomen, in which it proceeds by the left side of the spine to the last vertebra of the loins, where it divides into the two iliac arteries.

The *aorta* gives off, just above its origin, the *coronary* arteries of the heart.

The *arch of the aorta* gives off,

- I. The *arteria innominata*, which divides into the right carotid and right subclavian arteries.
- II. The left carotid.
- III. The left subclavian.

Each *carotid* is divided into the external and internal: the *external* gives off eight branches to the neck and face,

Anteriorly, 1. The superior thyroideal, or guttural.

2. The sublingual, or ranine.

3. The inferior maxillary.

4. The external maxillary, from which arise the fascial, or mental, coronary of the lips, and the angular.

Posteriorly, 5. The internal maxillary, from which arise the sphæno-maxillar, inferior, alveolar, and the spinous artery.

6. The occipital.

7. The external auditory.

8. The temporal, of which the frontal is a branch.

The *internal carotid*, or *cerebral*, gives off four branches within the cavity of the cranium :

1. The anterior cerebral.
2. The posterior.
3. The central artery of the optic nerve.
4. The internal orbital.

The *subclavian* gives off four branches :

1. The internal mammary, from whence come the mediastinal, thymal, and pericardiac.
2. The cervical, which is either anterior or posterior.
3. The vertebral, which uniting within the cranium with its fellow forms the basilar artery, internal auditory, and the posterior of the dura mater.
4. The superior intercostal.

As soon as the *subclavian* has arrived in the axilla, it is called the *axillary*, which runs into the arm, where it is termed the *brachial*.

The *axillary* gives off,

1. The external mammary.
2. The inferior thoracic.
3. The scapular.
4. The humeral.

The *brachial* gives off,

1. Many lateral vessels.
2. The cubital.
3. The radial.

The

The *cubital* sends off,

1. The recurrent.
2. The external interosseal.
3. The internal interosseal.
4. The palmar arch.
5. The digital.

The *radial* gives off the radial recurrent.

The *descending aorta* gives off, in the *breast*, four branches :

1. The bronchial.
2. The œsophageal.
3. The inferior intercostals.
4. The inferior diaphragmatic.

The *descending aorta* gives off, within the *abdomen*, eight branches :

1. The *cæliac* : from whence are
 1. Two diaphragmatics or inferior phrenics.
 2. The coronary of the stomach.
 3. The hepatic : from which arise,
 - a. The pyloric.
 - b. The greater or right gastric, which gives off the duodenal and right gastro-epiploic.
 - c. The cystic, or capsular.
 - d. The splenic, from which arise the pancreatic—the lesser, or left gastric—the short arteries, and the epiploic.

- the superior mesenteric, or meseraic, of which the superior or right colic artery is a branch.
3. The renal arteries, or emulgents.
 4. The spermatic arteries.
 5. The inferior meseraic, from which arises the internal hæmorrhoidal.
 6. The lumbar arteries.
 7. The sacral arteries.
 8. The iliac arteries.

The *iliacs* are divided into *internal* and *external*,
Each *internal iliac* gives off five branches :

1. The little iliac.
2. The gluteal.
3. The ischiatic.
4. The communis, or internal pudendal, from which arise the external hæmorrhoidal and pudendal.
5. The obturator.

Each *external iliac* gives off
The epigastric, and
The small external iliac.

The *trunk of the external iliac* is continued into the *crural*, and the *crural* into the *popliteal*.

The *popliteal* divides into,

1. The anterior tibial.
2. The posterior tibial, from which arise the external tibial—peroneal or fibular—internal and external plantar—and plantal arch, which gives rise to the digital arteries,

THE PULMONARY ARTERY AND VEIN.

The *pulmonary artery* arises from the right ventricle of the heart, and divides into the *right* and *left*, which ramify throughout the lungs, and terminate in the pulmonary veins, whose branches at length form four trunks, which empty themselves into the left auricle of the heart.

OF THE VEINS IN GENERAL.

VEINS are membranous canals which do not pulsate. They gradually become larger as they advance towards the heart, in which they terminate and bring back the blood from the arteries. *Origin.* From the capillary extremities of the arteries by anastomosis. *Termination* of all the veins is into the auricles of the heart. *Division*, into trunks, branches, ramuli, &c. *Situation.* They run by the sides of arteries, but more superficially. *Composed* like arteries of three membranes, but which are semi-transparent and more delicate. *Valves* are thin semilunar membranous folds, which prevent the return of the blood in the vein.

THE VENA CAVA.

The *vena cava* terminates in the right auricle of the heart, and receives the blood from

The superior cava,

The inferior cava.

The *vena cava superior* receives the blood from
The right and left subclavian,
External jugular veins, and
Vena azygos.

The veins which terminate in the *external jugular vein* are,

1. The frontal.
2. The angular.
3. The temporal.
4. The auricular.
5. The sublingual or ranine.
6. The occipital.

The veins which terminate in the *internal jugular* are,

1. The lateral sinuses of the dura mater.
2. The laryngeal or guttural.
3. The pharyngeal.

The veins which terminate in the *vena azygos* are,

1. The vertebral.
2. The intercostal.
3. The bronchial.
4. The pericardiac.
5. The diaphragmatic.

The blood is brought into the *subclavian vein* by
The mammary,
The thyroideal, and
The axillary.

The

The veins which terminate in the *axillary vein* are,

1. The scapular.
2. The superior and inferior thoracic.
3. The brachial.
4. The cephalic.
5. The basilic.
6. The median.
7. The salvatella.
8. The cephalica of the thumb.
9. The digitals.

The *vena cava inferior* receives the blood from,

1. The diaphragmatic.
2. The hepatic.
3. The renal.
4. The right spermatic.
5. The lumbar.
6. The sacral, and
7. The iliac veins.

The *iliac vein* receives

The external and internal iliac.

The *internal iliac*, or *bypogastric*,

The obturator,

The pudendal, and

The external hæmorrhoidal.

The veins which terminate in the *external iliac* are,

The epigastric, and

The crural.

The

The *crural*, or *femoral vein*, is continued from the *popliteal vein*.

The *popliteal* receives the blood from,

1. The anterior tibial.
2. The posterior tibial.
3. The peroneal,
4. The sural.
5. The cephalic of the great toe.
6. The saphena.
7. The dorsal of the foot.
8. The plantal, and
9. The digital of the foot.

THE VENA PORTÆ.

The *vena portæ* is that great vein which carries the blood from the abdominal viscera into the substance of the liver. The trunk of this vein, about the fissure of the liver in which it is *situated*, is *divided* into the *hepatic* and *abdominal portions*.

The *abdominal portion* is composed of three venous branches, viz. the *splenic*, *meseraic*, and *internal hæmorrhoidal*.

These three venous branches carry all the blood from the stomach, spleen, pancreas, omentum, mesentery, gall-bladder, and the small and large intestines into the *sinus* of the *vena portæ*.

The *hepatic part* of the *vena portæ* enters the substance of the liver—all the hepatic branches converge and secrete the bile in the liver.

The

The blood returning from the liver is carried through the hepatic veins into the vena cava, ascending under the liver.

OF THE CIRCULATION OF THE BLOOD IN THE FŒTUS.

THE fœtus *receives* its blood from the mother through the *umbilical vein*, and *transmits* it to the mother by the *umbilical arteries*.

The blood in the fœtus runs from the *right ventricle* of the heart into the *left*, by three ways—by the pulmonary artery—*foramen ovale*—and *canalis arteriosus*.

OF THE ABSORBENTS.

ABSORBENTS are very thin and pellucid vessels, which carry the lymph from every part of the body, substances applied to the surface of the body, and the chyle from the intestines; into the thoracic duct. *Division*, into *lacteals* and *lymphatics*—called *lacteals* in the intestines and mesentery—*lymphatics* in every other part. *Figure*, branching, becoming broader as they proceed towards their termination. *Valves*, numerous, giving them a knotted appearance. *Situation*. It is supposed that they exist in every part of the body, although

although they have not been as yet detected in some, as the brain, &c. *Origin.* Tela cellulosa, viscera, excretory ducts of the viscera, external surface, and every part of the body. *Termination,* in the thoracic duct. *Lymphatic* or *conglobate glands* are situated every where in the course of the lymphatics. *Substance.* They consist of tender, pellucid, strong tunics. *Use of the absorbents,* to carry back the lymph from the different parts ; to convey the chyle from the intestines to the thoracic duct, where they become mixed and diluted ; and to absorb substances from surfaces and parts on which they originate. *Use of the glands,* to secrete a gelatinous juice which is mixed with the lymph in the gland.

The *thoracic duct*, or trunk of all the absorbents, is of a serpentine form, and about the size of a crow-quill. It is found lying upon the dorsal vertebræ between the aorta and vena azygos, extending from the posterior opening of the diaphragm to the angle formed by the union of the subclavian and jugular veins, in which it opens and evacuates its contents.

The thoracic duct in this course receives the absorbent vessels from every part of the body, as

The neck,
Thorax,
Abdomen,
Superior and
Inferior extremities.

NEURO-

NEUROLOGY

NERVES are long whitish cords, which serve for sensation. *Origin.* The brain and spinal marrow. *Termination.* The organs of sense—viscera—vessels and muscles. *Figure,* ramous. *Divided* into trunks, branches, ramuli, capillary fibres, papillæ, nervous plexuses, and ganglions. *Substance,* pulpy. *Division,* into cerebrine and spinal. *Number,* 42 pair; 12 pair of the cerebrine nerves, and 30 pair of spinal nerves. *The twelve pair of cerebrine nerves* are, 1. The olfactory. 2. The optic. 3. Oculorum motorii. 4. The pathetic or trochleatores. 5. The trigemini or divisi. 6. The abducent. 7. The auditory or acoustic. 8. The faciales. 9. The glosso-pharyngæi. 10. The vagi. 11. The accessorii to the par vagum. 12. The lingual. *The thirty pair of spinal nerves* are divided into eight pair of cervical, twelve pair of dorsal, five pair of lumbar, and five pair of sacral nerves. *Use,* for sensation in sensible parts, for the five external senses, as touch, sight, hearing, smelling, and taste; and for the motion of muscles.

OF THE NERVES OF THE BRAIN IN PARTICULAR.

THE FIRST PAIR, or *Olfactory nerves*, arise from the corpora striata, and are distributed on the pituitary membrane of the nose. *Use*, for smelling.

THE SECOND PAIR, or *Optic nerves*, arise from the thalami nervorum opticorum, perforate the bulb of the eye, and in it form the *retina*, which is the organ of vision.

THE THIRD PAIR, or *Oculorum motorii*, arise from the crura cerebri, and are inserted into the muscles of the bulb.

THE FOURTH PAIR, or *The Patbetic nerves*, arise from the testiculi cerebri, and are inserted in the musc. obliquus superior.

THE FIFTH PAIR, or *Trigemini*, arise from the crura of the cerebellum, and are divided within the cavity of the cranium into three branches, viz. the orbital—superior and inferior maxillary. The *orbital* is divided into three branches—the frontal—lachrymal and nasal. The *superior maxillary* is divided into the sphæno-palatine—posterior alveolar and infra-orbital nerve. The *inferior maxillary* is divided into two branches, the internal lingual, and one more properly called the inferior maxillary.

THE SIXTH PAIR, or *Abducent nerves*, arise from the posterior part of the pons varolii, and are distributed on the rectus externus.

THE SEVENTH PAIR, or *Auditory nerves*, arise from the crura of the cerebellum, and are divided on each side into two branches, called *portio dura* and *mollis*, and are distributed on the internal labyrinth of the ear.

THE EIGHTH PAIR, or *Fascial nerves*, arise from the fourth ventricle of the cerebrum, pass through the petrous portion of the temporal bone to the temples, where they divide into several branches.

THE NINTH PAIR, or *Glossopharyngeal nerves*, arise from the processes of the cerebellum, which run to the medulla spinalis, and terminate by numerous branches in the muscles of the tongue and pharynx.

THE TENTH PAIR, or *Par vagum*, arise from the corpora olivaria of the medulla oblongata, and run into the neck, thorax and abdomen. In *the neck* it gives off two branches, the lingual and superior laryngeal; and in *the thorax* four branches—recurrent laryngeal—cardiac—pulmonary—æsophageal plexuses. At length the trunks of the nervi vagi, adjacent to the cavity of the mediastinum, run into the stomach, and there form the stomachic plexus, which branches to the abdominal plexus.

THE ELEVENTH PAIR, or *Accessory nerves* to the par vagum, arise from the posterior part of the medulla spinalis, a little above the root of the 4th, 5th,

5th, and 6th cervical nerves; and in the foramen jugulare are divided into two branches—the *external* and *internal*.

THE TWELFTH PAIR, or *Middle lingual nerves*, arise from a fulcus between the corpora olivaria and pyramidalia, and go to the tongue through the condyloid foramina.

OF THE NERVES OF THE MEDULLA SPINALIS.

THOSE nerves are called spinal which pass out through the lateral or intervertebral foramina of the vertebræ and os sacrum.

The *cervical nerves* are eight in number.

The first pair are called *occipital*, which pass out between the occiput and first vertebra of the neck, and are distributed to the occiput and neck.

The other seven pair of cervical nerves are distributed to the muscles of the neck, parotid gland, humerus, and auricula; and form the *phrenic* or *diaphragmatic*—and the *brachial plexuses*.

The *phrenic nerves* arise from the 3d, 4th, and 5th cervical pair, and run to the thorax and diaphragm.

The *brachial plexus* arises from the union of the five lowest cervical pair and the first dorsal, and is distributed into six branches——1. The articular.

2. Median

2. Median. 3. Ulnar. 4. Radial. 5. External cutaneous. 6. Internal cutaneous nerve.

DORSAL NERVES

Are in number 12 pair. They run under the lower margin of the ribs to the sternum, where they are called *costal nerves*, and are distributed on the muscles of the skin of the back and thorax.

LUMBAR NERVES

Are in number five pair. They go out of the foramina of the vertebræ of the loins, and are bestowed on the loins, ossa innominata, and muscles of the abdomen.

SACRAL NERVES

Are five pair in number. They arise from the cauda equina of the spinal marrow, and are distributed in the cavity of the pelvis—on the urinary bladder—vesiculæ feminales—penis—uterus—vagina, and intestinum rectum.

OF THE NERVES OF THE LOWER EXTREMITIES.

THE nerves of the lower extremities are formed by the union of the lumbar and sacral, and are three in number. 1. The *obturator*. 2. The *crural*. 3. The *ischiatric*, which is divided near the popliteal cavity into the *tibial* and *peroneal*, which distribute nerves to the leg and foot.

H

OF

OF THE GREAT INTERCOSTAL NERVES.

THE great intercostal nerve arises in the cavity of the cranium from a branch of the sixth and one of the fifth pair united into one trunk, which passes out of the cranium through the carotid canal, and descends by the sides of the bodies of the vertebræ of the neck, thorax, loins, and os sacrum : in its course it receives the small accessory branches from all the 30 pair of spinal nerves.

In the neck it gives off three *cervical ganglions*—the upper—middle—and lower : from which arise the *cardiac* and *pulmonary nerves*.

In the thorax it gives off the *splanchnic* or *anterior intercostal*, and forms the *semilunar ganglions*, from which nerves pass to all the abdominal viscera.

In the abdomen they form 10 peculiar plexuses, under the name of the viscus to which they belong, as
 1. The *cæliac plexus* to the stomach. 2. The *splenic* to the spleen. 3. The *hepatic* to the liver. 4. The *superior mesenteric*. 5. The *middle mesenteric*. 6. The *lowest mesenteric*, or *bypogastric* to the mesentery. 7. Two *renal* to the kidneys. 8. Two *spermatic plexuses* to the testicles.

The *posterior intercostal nerve* gives accessory branches about the pelvis to the viscera and ischiatic nerve, and at length terminates.

ADENO-

A D E N O L O G Y.

A GLAND is a small round body, which serves for the secretion or alteration of a fluid. *Division*, into folliculose—globate—glomerate—and conglomerate ; they are also divided from the liquid they secrete or change, into sebaceous—muciparous—lymphatic—lachrymal—salival—bilious—lacteal, &c. A *folliculose gland* consists of an hollow vascular membrane, having an excretory duct ; as the muciparous and sebaceous glands. A *globate gland* consists of a glomer of lymphatic vessels, connected together by cellular membrane, and has no cavity nor excretory duct, as the lymphatic glands of the lymphatic vessels. A *glomerate gland* is formed of a glomer of sanguineous vessels ; has no cavity, but is furnished with an excretory duct, as the lachrymal and mammary glands. A *conglomerate gland* is a gland composed of many glomerate glands, whose excretory ducts unite and form one large canal or duct. The pancreas and salival glands belong to this class. The *excretory duct* of glands is a thin canal, which goes out of the gland, and excerns the secreted fluid. *Nerves* and *vessels* of glands are numerous, and come from the neighbouring parts. Glands are connected with other parts by cellular

membrane. *Size*, larger in infants than in adults.
Use, to secrete or change a fluid.

GLANDS OF THE SKIN.

The *subcutaneous glands* are sebaceous, and situated under the inferior surface of the skin, which they perforate by their excretory ducts.

GLANDS IN THE CAVITY OF THE CRANIUM.

1. *Glands of the dura mater*, called also, after their discoverer, *Bacchonian*, are situated near the superior longitudinal sinus of the dura mater, in peculiar foveolæ of the os frontis and parietal bones. They appear to be globate. 2. *Glands of the choroid plexus* are globate, and situated in the choroid plexus of the lateral ventricles of the brain. 3. The *pituitary gland*, situated in a duplicature of the dura mater, in the sella turcica of the sphænoid bone. The infundibulum of the brain terminates in this gland.

GLANDS OF THE EYES.

1. *Meibomius's glands*. These are small and numerous sebaceous glands, situated under the cutis of the eye-lids, near their margins. Their excretory ducts open on the margins of the tarsi, and are called *puncta ciliaria*.

2. The *lachrymal gland*, which is glomerate, and situated above the external angle of the orbit, in a peculiar fovea of the os frontis. This gland has six or eight

eight excretory canals, through which the tears are conveyed, and which open upon the internal surface of the upper eye-lids.

3. The *caruncula lacrymalis*, a small and red prominence, obvious in the internal angle of the eye, between the tarfi of eye-lids. It consists of small sebaceous glands which secrete a fæculent fluid.

GLANDS OF THE NOSTRILS.

The pituitary membrane lining the nostrils and its sinuses, is every where furnished with *muciparous glands*, which secrete the mucus of the nose.

GLANDS OF THE EAR.

The *ceruminous glands* are situated under the cutis of the meatus auditorius externus, and secrete the cerumen of the ears.

GLANDS OF THE MOUTH.

The glands of the mouth, which secrete the saliva, are called *salival*, and are—1. The *parotid*, two large conglomerate glands, situated under the ear between the mammillary process of the temporal bones and angle of the lower jaw. The excretory canal of this gland opens in the mouth, and is called, from its discoverer, the *Stenonian duct*. 2. The *maxillary*, which are conglomerate glands, situated under the angles of the lower jaw. The excretory duct of these glands are also called, after their discoverer, *Wartbonian*. 3. The

sublingual glands, situated under the tongue. 4. The *glands of the cheek*, situated on the internal surface of the cheeks. 5. The *labial glands*, on the internal surface of the labia, under the common membrane of the mouth. 6. The *molar glands*, situated on each side of the mouth, between the masseter and buccinator muscles, and whose excretory ducts open near the last dens molaris.

EXTERNAL GLANDS OF THE NECK.

1. The *jugular glands*, which are globate, and found under the skin of the neck about the external jugular veins. They are in general about 20 in number. 2. The *submaxillary glands* also globate, and situated in the fat under the jaw. 3. The *cervical*, found under the cutis in the fat about the neck. 4. The *thyroid*, a large gland lying upon the cricoid cartilage, trachea, and horns of the thyroid cartilage. It is uncertain whether it be conglobate or conglomerate. It's excretory duct has never been detected, and it's use is unknown.

GLANDS OF THE FAUCES.

The glands situated under the membrane, which lines this cavity, are muciparous, and divided from their situation into *palatine*, *uvular*, *tonsil*, *lingual*, *laryngeal*, and *pharyngeal*.

GLANDS OF THE BREASTS.

The *mammary*, or *lacteal glands*, are situated under the fat of the breasts. Their excretory ducts are called *tubuli lactiferi*, and run from them to the nipple, in which they open.

GLANDS OF THE THORAX.

1. The *thymus*, a large gland, situated in the anterior duplicature or space of the mediastinum, under the superior part of the sternum, and above the pericardium. An excretory duct has not been as yet detected, but lymphatics are seen going from this gland to the thoracic duct. 2. The *bronchial*, which are large blackish glands near the end of the trachea, and beginning of the bronchia, and which secrete a blackish mucus. 3, The *œsophageal glands*, found under the internal membrane of the œsophagus, and which secrete the mucus of that canal. 4. The *dorsal gland*, situated upon the 4th or 5th vertebra of the back, between them and the posterior surface of the œsophagus. It has no excretory duct; sometimes it is very large, and at other times there are two.

GLANDS OF THE ABDOMEN.

1. The *gastric glands*, which are muciparous, and situated under the external membrane of the stomach. 2. The *intestinal glands*, which are also muciparous, and found under the internal membrane of the intestines,

testines, especially the large. 3. The *mesenteric glands*, situated here and there in the cellular membrane of the mesentery. The chyle from the intestines passes through these glands to the thoracic duct. 4. The *hepatic glands*, also called *acini biliosi*, which are situated in the substance of the liver, and separate the bile into small ducts, which, at length, terminate in the *ductus hepaticus*. 5. The *cystic glands*, which are muciparous, and found under the internal membrane of the gall bladder, especially about its neck. 6. The *pancreatic glands*, which constitute the pancreas; a small duct arises from each gland, which unite to form the *ductus pancreaticus*. See SPLANCHNOLOGY. 7. The *epiploic, or omental glands*, which are globate, and situated in the omentum.

GLANDS OF THE LOINS.

1. The *supra-renal glands*, situated in the adipose membrane, one above each kidney. An excretory duct has never been detected, and their use is unknown. 2. The *kidneys*. See SPLANCHNOLOGY. 3. The *lumbar glands*, which are conglobate, and situated about the beginning of the thoracic duct. 4. The *iliac glands*, found about the beginning of the iliac vessels. 5. The *sacral*, which are globate glands, and adhere to the os sacrum.

GLANDS OF THE ORGANS OF GENERATION OF MAN.

1. The *odoriferous glands* of the glans penis, which are sebaceous, and situated around the *corona glandis*.
2. The *mucous glands of the urethra*, situated under the internal membrane of the urethra. The oscula of their excretory ducts are called *lacunæ*.
3. *Cowper's glands* (so called from their inventor) are three large muciparous glands, two of which are situated before the prostate gland under the accelerator muscles of the urine, and the third more forward before the bulb of the urethra.
4. The *prostate*, a very large, heart-like, firm gland, situated between the neck of the urinary bladder and bulbous part of the urethra. It secretes a lacteal fluid, which is emitted into the urethra by ten or twelve ducts near the verumontanum during coition.

GLANDS OF THE FEMALE ORGANS OF GENERATION.

1. The *odoriferous glands of the labia majora and nymphæ*, which are sebaceous, and situated under the skin of those parts.
2. The *odoriferous glands of the clitoris*, which are numerous, situated about the basis of the clitoris, and are of the same nature as the former.
3. The *mucous glands of the urethra*, situated under the internal membrane of the female urethra.
4. The *mucous glands of the vagina*, situated under the internal membrane of the vagina.

GLANDS OF THE EXTREMITIES.

The *glands in the groin*, or *inguinal glands*, are globate or lymphatic, are situated in great numbers in the cellular membrane of the inguinal region, and receive the lymphatic vessels from the glans penis, and lower extremities. The *subaxillary glands* are also globate, and situated in the axilla or arm-pit in the cellular membrane. They are also numerous, and receive the lymphatic vessels from the breasts and superior extremities.

GLANDS OF THE JOINTS.

The small fat-like masses, situated within the moveable joints, are erroneously called *synovial glands*. Their structure is not glandular, but composed of adeps and an arrangement of the internal vascular membrane of the joint, which gives them a fimbriated appearance. By these massulæ the synovia is separated from the blood for the easy motion of the joint.

SPLANCHNOLOGY.

BODY, divided externally into head—trunk— and extremities. *Head*, divided into face—and hairy part. *Hairy part*, into vertex, or crown—sinciput, or the fore-part—occiput, or hinder part—and sides. *Face*, into forehead—temples—nose—eyes—mouth—cheeks—chin—ears. *Trunk*, divided into neck—thorax—abdomen. *Neck*, into anterior and posterior part. *Thorax*, into anterior and posterior part and sides. *Abdomen*, into anterior—posterior and lateral regions. *Anterior region*, subdivided into three regions, epigastric—umbilical and hypogastric. *Pubes* is under the abdomen, between the groins. Under the pubes are the parts of generation—in men, the scrotum and penis—in women, the labia and rima vulvæ. The space between the genitals and anus, is called *perinæum*. *Extremities*, divided into superior and inferior. *Superior extremity*, into top of the humerus—brachium—fore-arm and hand. *Hand*, into carpus—metacarpus and fingers. *Fingers*, into pollex—index—digitus medius—digitus annularis—digitus auricularis. *Inferior extremity*, divided into femur, or thigh—crus, or leg—and extremity of the foot. *Foot*, into tarsus—metatarsus and toes.

Internal

Internal division of the body, into three cavities, viz. cavity of the cranium—thorax—abdomen.

OF THE COMMON INTEGUMENTS.

EPIDERMIS—rete mucosum—cutis—and membrana adiposa.

EPIDERMIS, OR SCARF'S-SKIN.

A thin pellucid membrane, covering the external surface of the body. *Connection*, with the cutis, hairs, exhaling and inhaling vessels. *Colour*, white. *Use*, to cover the sensible cutaneous papillæ.

RETE MUCOSUM.

A mucous substance, disposed in a net-like form, between the epidermis and cutis. *Colour*, white in Europeans—black in Ethiopians, &c. &c. *Use*, to cover the sensible cutaneous papillæ—to connect the epidermis with the cutis, and give the colour to the body. *Synonyms*. Mucus malphigianus.

CUTIS, OR TRUE SKIN.

A thick membrane between the rete mucosum and adipose membrane, covering the whole body. *Substance*, fibrous, vascular and nervous. *Use*, for the situation of the organ of touch, exhalation and inhalation.

UNGUES, OR NAILS,

Are corneous laminæ, situated in the extremities of the fingers and toes. *Use*, to defend the nervous papillæ from contusion.

PILI,

PILI, OR HAIRS.

Thin, elastic, dry filaments growing out from the skin. *Colour* and *situation*, various. *Called* capilli on the head—supercilia, or eye-brows above the eyes—cilia, or eye-lashes on the margin of the eye-lids—vibrissæ in the nostrils—pili auriculares in the meatus auditorius—mustax on the upper lip—barba on the lower jaw, &c. &c.

ADIPOSE MEMBRANE.

A membrane formed of small membranous cells distended with fat. *Situation*, under the cutis, and in some soft parts. *Use*, to cover and defend the muscles—to unite the soft parts—and to render the muscular fibres flexible:—when without fat, it is called *tela cellulosa*, cellular membrane, which forms the substance of almost all the membranes, and connects various parts together.

OF THE HEAD IN GENERAL.

THE parts, which form the head, are *divided* into external and internal. The *external parts* are the common integuments—hair—a tendinous expansion—three pair of muscles—pericranium—and cranium itself. The *internal parts* are—the dura mater—membrana arachnoidea—pia mater—cerebrum—cerebellum—medulla oblongata—nine pair of nerves—four arteries—twenty-two venous sinuses.

DURA

DURA MATER.

A thick membrane, which strongly adheres to the internal surface of the cranium, especially about the futures. *Processes*. Processus falciformis—tentorium cerebelli—septum cerebelli. *Substance*. Two strong membranous layers adhering together by fibrous texture. *Arteries*. Meningea anterior—media—and posterior. *Veins*, are called venous sinuses, in number twenty-two, the principal of which are the superior longitudinal, lateral, and inferior longitudinal. *Nerves*, none. *Glands*, called Bacchionian. *Use*, to form the internal periosteum of the cranium—to contain and defend the cerebrum and internal parts of the brain from compression.

MEMBRANA ARACHNOIDEA.

A thin membrane like a spider's web, *situated* between the dura and pia mater, surrounding the cerebrum, cerebellum, medulla oblongata, and medulla spinalis. *Substance*, very thin and filamentous, without vessels and nerves. *Use*, not known.

PIA MATER.

A thin membrane, firmly accreted to the convolutions of the cerebrum, cerebellum, medulla oblongata, and spinalis. *Substance*, almost wholly vascular. *Use*, to distribute the vessels to, and contain the substance of, the cerebrum.

CEREBRUM,

CEREBRUM, OR BRAIN.

A great viscus in the cavity of the cranium. *Figure*, oval. *Size*, larger in proportion than in any other animal. *Substance*, cortical and medullary. *Divided* into two hemispheres, right and left. Each hemisphere sub-divided inferiorly into three lobes—*anterior*, *middle*, and *posterior*. *Principal cavities*, two anterior or lateral ventricles—a third and fourth ventricle. *Principal prominences*, corpus callosum—centrum ovale—raphe—septum pellucidum—fornix—lyre or psalterium—processus digitales—pedes hippocampi—corpora striata—thalami nervorum opticum—valvula magna cerebri—commisura anterior et posterior—corpora quadrigemina, i. e. nates and testes—glandula pinealis—glandula pituitaria—eminentiæ candicantes—and crura cerebri. *Arteries*, branches of the internal carotids and vertebrals. *Nerves*, none, but emits twelve pair. *Veins*, return from the cortex of the cerebrum, and evacuate themselves into twenty two venous sinuses of the dura mater. *Use*. Is the organ of all the senses.

CEREBELLUM, OR LITTLE BRAIN.

A small brain situated under the tentorium in the inferior occipital fossæ. *Figure*, round. *Division*, into a right and left lobe. *Substance*, externally cortical—internally medullary. *Prominences*, crura cerebelli—*anterior* and *posterior* vermiform processes—arbor vitæ. *Cavities*, none. *Vessels*, common with the cerebrum. *Use*, the same as the cerebrum.

MEDULLA

MEDULLA OBLONGATA.

A medullary part lying upon the basilar or cuneiform process of the occipital bone, formed by the connection of the crura of the cerebrum and cerebellum. *Eminences*, pons varolii—corpora pyramidalia—and corpora olivaria. *Use*, the same as the cerebrum.

MEDULLA SPINALIS.

A continuation of the medulla oblongata, which descends into the specus vertebralis, from the foramen magnum occipitale to the third vertebra of the loins. *Figure*, cylindrical, *Terminates* in various nerves, which form the *cauda equina*. *Integuments*, the dura mater—tunica arachnoidea—and pia mater. *Substance*, externally medullary—internally cortical. *Arteries*, anterior spinal. *Use*, to emit thirty pair of nerves called spinal.

EYE.

The parts which form the eye are divided into external and internal. *External parts*. Supercilia, or eyebrows—palpebræ, or eye-lids—cilia, or eye-lashes—lachrymal gland—lachrymal caruncle—puncta lachrymalia—canalis lachrymalis—faccus lachrymalis—ductus nasalis—membrana semilunaris—muscles of the eye-lids—muscles of the bulb of the eye—pinguedo orbitalis. *Bulb of the eye*, consists of eight membranes—two chambers—and three humours. *Membranes*

branes in the *posterior* part of the bulb—sclerotica—choroidea—retina—hyaloidea., or arachnoidea. In the *anterior* part, cornea transparens—iris—uvea—capsule of the crystalline lens. *Chambers*, anterior and posterior. *Humours*, aqueous—crystalline lens—and vitreous. *Connection of the bulb*. Anteriorly with the membrana conjunctiva—posteriorly with the orbit, by means of the recti muscles and the optic nerve. *Arteries*, orbitalis interna—centralis and optica. *Veins*, empty themselves into the external jugulars. *Nerves*, optic, and branches from the third, fourth, fifth, and sixth pair. *Use*. It is the organ of vision.

EAR.

The soft parts which form the ear are divided into external and internal. *External soft parts* are, the auricula, in which are various prominences and sinuses, as the helix—anthelix—tragus—antitragus—concha auriculæ—scapha seu fossa navicularis—and lobulus—the meatus auditorius externus—and membrana tympani. *Internal soft parts*, periosteum—membrana communis—tuba Eustachiana. *Arteries*, auditoria interna and externa. *Veins*, empty themselves into the external jugular. *Nerves* of the external ear are, branches of the nervus auditorius mollis—of the internal part are, branches of the auditorius durus. *Use*. It is the organ of hearing.

NOSE.

A prominence of the face between the eyes and mouth. *Division*, into root—back—apex—and alæ. *Soft parts*. Common integuments—muscles—cartilages—periosteum—perichondrium. *Soft parts of the nostrils*. Membrana pituitaria—periosteum narium. *Arteries*, branches of the internal maxillary. *Veins*, empty themselves into the internal jugulars. *Nerves*, branches of the olfactory—ophthalmic—and superior maxillary. *Muciparous glands*, situated in the pituitary membrane. *Use*, for smelling, respiration, and speech.

CAVITY OF THE MOUTH.

The parts which form this cavity are external or internal. *External*, labia—philtrum—mentum—buccæ. *Composition*, common integuments and muscles of the upper and under jaw. *Arteries* of the external part are branches of the infra-orbitalis, alveolares inferiores and faciales. *Veins*, empty themselves into the external jugular. *Nerves*, from the fifth and seventh pair. *Internal* parts of the mouth are the palate—two alveolar arches—gums—tongue—cavity of the cheeks—and three pair of salival glands. *Use*, for mastication—speech—respiration—deglutition—suction—and taste.

TONGUE.

TONGUE.

A muscular body, moveable in every direction, situated in the cavity of the mouth. *Division*, into basis—body—sides—apex. *Connection*, with the os hyoides—fundus of the infra-lingual cavity—and lower jaw. *Nervous papillæ* are pyramidal—fungiform—or conoid. *Substance*, carneous, covered by cuticle, rete mucosum, cutis, and tela cellulosa. *Lingual arteries*, branches of the external carotid. *Veins*, empty themselves into the external jugulars. *Nerves*, from the fifth, eighth, and ninth pair. *Glands* are muciparous. *Use*, for speech—mastication—deglutition—suction—and taste.

OF THE NECK IN GENERAL.

THE parts, which form the neck, are divided into external and internal. *External parts*, common integuments—muscles of the neck—eight pair of cervical nerves—two carotid arteries—two vertebral arteries—two external jugular veins—two internal jugular veins—jugular gland—thyroid gland—the eighth pair of nerves of the cerebrum—and great intercostal. *Internal parts*, fauces—pharynx—æsophagus—larynx and trachea.

FAUCES.

The cavity behind the tongue and velum palatinum. *Soft parts*, common integuments and muciparous glands. *Arteries*, branches of the external carotid. *Veins*, empty themselves into the internal jugular. *Muscles*, see MYOLOGY. *Nerves*, from the fifth and eighth pair. *Use*, for deglutition—respiration—speech—and hearing.

PHARYNX.

A muscular sac, like a funnel, situated behind the larynx, adhering to the fauces, and terminating in the œsophagus. *Connected*, by means of muscles, with the cranium—vertebræ—and os hyoides. *Use*, to receive the masticated food, and convey it into the œsophagus.

ÆSOPHAGUS.

A membranous muscular tube, descending from the pharynx to the stomach. *Composed* of four membranes, viz. the common—muscular—nervous—and villous. *Arteries*, branches of the aorta. *Veins*, empty themselves into the azygos. *Nerves*, from the eighth pair and great intercostal. *Muciparous glands*, everywhere. *Use*, for deglutition.

LARYNX.

A cartilaginous cavity, situated behind the tongue in the anterior part of the fauces. *Composed* of five cartilages—various muscles—and an internal nervous membrane.

membrane. *Cartilages*, annular or cricoid—thyroid or scutiform—epiglottis—two arytaenoid cartilages. *A nervous membrane* covers their internal surface. *Arteries*, branches of the external carotid. *Veins*, empty themselves into the external jugular. *Nerves*, branches of the eighth pair. *Glands*, thyroid. *Use*. Is the organ of the voice, and serves also for respiration.

TRACHEA.

A tube, composed of cartilaginous carneous annuli continued from the larynx, and situated before the œsophagus. It descends to the jugulum of the sternum, and there divides into two branches called *bronchia*. These bronchia, entering the substance of the lungs, divide into innumerable ramuli, or little branches, which terminate in the *vesiculæ pulmonales*. The cartilaginous annuli, or rings of the trachea and bronchia, are not completely cartilaginous, but carneous on the back part. The internal surface is lined by a *nervous membrane* continued from the larynx. *Vessels* and *nerves*, common with the larynx. *Use*, for respiration and speech.

OF THE THORAX IN GENERAL.

THE cavity situated between the neck and abdomen is called the *thorax* or breast. *The external parts* are, the common integuments—mammæ—various

muscles and bones. *The internal parts* are, the pleura—lungs—heart—thymus gland—tela cellulosa—æso-phagus—thoracic duct—arch of the aorta—branches of the vena cava—vena azygos—eighth pair of nerves—part of the great intercostal nerve.

MAMMÆ, OR BREASTS.

Two soft hemispheres adhering to the anterior and lateral region of the thorax, most conspicuous in females. On the middle of the external surface is the *papilla*, around which is the coloured orb or disc of the papilla, called *areola*. *Substance*, common integuments—adipose substance—lacteal glands and vessels. *Arteries*, external and internal mammary. *Veins*, empty themselves into the axillary and subclavian vein. *Nerves*, branches of the costalis superior. *Lymphatics*, empty themselves into the subaxillary glands. *Use*, to suckle new-born infants.

PLEURA.

A membrane lining the internal surface of the thorax, and covering its viscera. It forms a great process called the *mediastinum*, which is a membranous septum to the cavity of the thorax, dividing it into two cavities, arising from the duplicature of the pleura. *Connected* with the ribs—muscles—sternum—bodies of some vertebræ—pericardium—and diaphragm. *Substance*, fibrous and vascular. *Arteries*, from the intercostals. *Veins*, empty themselves into
the

the intercostals. *Nerves*, few or none. *Use*, to divide and render the surface of the thorax moist by the vapour it exhales, and to give a membrane to the lungs and pericardium.

DIAPHRAGM.

A carneo-tendinous sepimentum, or division, dividing the cavity of the thorax from the cavity of the abdomen. *Adhesion*, anteriorly with the sternum and ribs—posteriorly with the vertebræ. *Substance*, in the centre, tendinous—in the ambit, carneous—superior surface covered by the pleura—inferior covered by the peritoneum. *Apertures*, foramen dextrum—sinistrum—and hiatus posticus. *Arteries*, from the descending aorta. *Veins*, empty themselves into the vena azygos. *Nerves*. The diaphragmatic or phrenic nerves arise from the spinal nerves of the neck. *Use*, for respiration—situation of the heart—expulsion of fæces—and parturition.

LUNGS.

Two viscera situated in the cavities of the thorax, by which we breathe. *Division*, into right and left lung—the right has three lobes—left only two. *Connection*, with the neck and heart. *Substance*, vesicular—vascular—and bronchial. It has an external membrane from the pleura. *Vessels*, pulmonary and bronchial. *Nerves*, from the eighth pair and great intercostal. *Lymphatics*, on it's external surface.

Glands, called bronchial. *Use*, for respiration, sanguification, and voice.

PERICARDIUM.

A membranous sac surrounding the heart. *Adhesion*, with the diaphragm—pleura—sternum—cartilages of the ribs—æsophagus—aorta descendens—veins and great arteries going to and from the heart. *Arteries*, branches of the internal mammary and mediastinal. *Veins*, empty themselves into the internal mammary. *Nerves*, from the superficial cardiacs. *Use*, to contain the heart—to separate a fluid, which may lubricate it—and to preserve it from concretion with the pericardium.

HEART.

A muscular viscus situated in the cavity of the pericardium, which serves for the motion of the blood. *Division*, externally into base—surfaces and margins; internally, into right and left ventricle. *Situation*, oblique, not transverse. *Cavities of the heart*, right and left auricle, and right and left ventricle. *Orifices*, auricular and arterial. *Valves*, semilunar—mitral—tricuspidal. *Vessels* are common and proper: the common are the aorta—pulmonary artery and veins—vena cava; the proper are the coronary arteries and veins. *Nerves*, branches of the eighth pair and great intercostal. *Use*. It is the primary organ of the motion of the blood.

OF THE ABDOMEN IN GENERAL.

A CAVITY situated between the thorax and pelvis. Divided externally into—epigastric region, whose sides are called hypochondria—umbilical region, the sides of which are the lumbar regions—hypogastric region, whose sides are called iliac regions. *External parts*, common integuments—five pair of abdominal muscles and peritoneum. *Internal parts*, or *viscera*, omentum, stomach, small and large intestines, liver, gall bladder, mesentery, lacteal vessels, spleen, pancreas, kidneys, ureters, supra renal glands, aorta descendens, and vena cava ascendens.

PERITONEUM.

A membrane lining the internal surface of the abdomen. *Connected*, by means of tela cellulosa, with the diaphragm—abdominal muscles—vertebræ of the loins—bones of the pelvis—urinary bladder—uterus intestinum rectum—and all the viscera of the abdomen. *Vessels of the peritoneum*, from the adjoining parts. *Use*, to contain and strengthen the abdominal viscera, and to exhale a vapour to lubricate the viscera.

OMENTUM.

An adipose membrane, attached to the stomach, and lying on the anterior surface of the intestines. *Division*, into large and small, or omentum colicum and omentale. *Foramen Winslowianum*, is in the small omentum. *Arteries*, branches of the cæliac. *Veins*, empty

empty themselves into the vena portæ. *Use*, to lubricate the intestines—keep them warm—and to preserve them from concretion.

STOMACH.

A membranaceous receptacle, which receives the ingesta from the œsophagus. *Situated* in the epigasttric region. *Divided*, when empty, into surfaces—curvatures—cardia—pylorus—and fundus. *Connection*, with the œsophagus, duodenum, omentum and pancreas. *Composed* of four membranes, viz. common, muscular, nervous, and villous. *Arteries*, branches of the cæliac. *Gastric veins* empty themselves into the vena portæ. *Nerves*, branches of the par vagum. *Glands*, muciparous, under the internal tunic. *Use*, to receive the ingesta from the œsophagus, and to retain, mix, digest, and expel it into the duodenum.

INTESTINES.

The membranous tube, six times longer than the body, in the cavity of the abdomen, variously contorted from the pylorus of the stomach to the anus, is so called. *Division*, into small and large. The small are the duodenum—jejunum and ileum. The large are the cæcum, colon and rectum. *Composed* of four membranes, common—muscular—nervous—villous. *Connection*, with mesentery, kidneys, os coccygis and vesica, and in women with the vagina. *Arteries*, branches of the superior and inferior meseraic—duodenal and internal hæmorrhoidal. *Veins*, run into the meseraic.
Nerves,

Nerves, productions of the eighth pair and intercostals. *Lacteal vessels*, arise from the small intestines, and run into the meseraic glands. *Glands*, muciparous, under the nervous coat. *Use*, to receive the chyme, and retain it for a time—to mix it with the succus entericus and bile—to separate and propel the chyle into the lacteal vessels—and to eliminate the fæces.

MESENTERY.

A membranaceous duplicature, very much folded, to which the intestines adhere. *Division*, into mesentery and mesocolon. *Connection*, with the lumbar vertebræ. *Arteries*, inferior and superior, branches of the aorta descendens. *Veins*, empty themselves into the vena portæ. *Nerves*, branches of the eighth pair and intercostals. *Glands*, situated within the duplicature. *Lacteal vessels*, arise from the intestines, and proceed within it's duplicature to the meseraic glands. *Use*, to strengthen the intestines, and afford a situation to the vessels, glands and nerves.

LIVER.

A great abdominal viscus, which serves for the secretion of bile, placed in the right hypochondriac region, and somewhat in the epigastric. *Division*, into three lobes—the great, small, and Spigelian. *Connection*, with the diaphragm. *Substance*, vascular. *Glands*, in the substance of the liver, called acini biliosi. *Ducti hepatici*, arise from the acini of the liver,
form

form a common canal, which unites with the cystic duct. *Use*, to secrete bile.

GALL BLADDER.

An oblong membranous receptacle situated under the liver, in the right hypochondrium. *Division*, into bottom, body and neck, which terminates in the ductus cysticus. The ductus cysticus unites with the ductus hepaticus, and forms the ductus communis choledochus, which perforates the duodenum, and conveys the bile into the intestines. *Composed* of three membranes—a common, fibrous, and villous. *Arteries*, branches of the hepatic. *Veins*, empty themselves into the vena portæ. *Absorbents*, very numerous. *Nerves*, from the eighth pair and intercostals. *Glands*, muciparous. *Use*, to retain the gall, which regurgitates from the hepatic duct, there to become thicker, more bitter and acrid.

SPLEEN.

A spongy viscus, situated in the left hypochondrium, near the fundus of the stomach, under the ribs. *Figure*, oval. *Connection*, with the omentum, diaphragm, pancreas and colon. *Arteries*, the splenic artery is a branch of the cæliac. *Veins*, empty themselves into the vena portæ. *Absorbents*, very numerous. *Nerves*, from the par vagum and great intercostal. *Use*, unknown.

PANCREAS.

A glandular body, of a long figure, compared to a
dog's

dog's tongue, situated in the epigastric region, under the stomach. *Composed* of innumerable small glands, the excretory ducts of which unite and form the pancreatic duct. It's external membrane is from the mesocolon. *Arteries*, from the neighbouring parts and splenic artery. *Veins*, evacuate themselves into the splenic. The *pancreatic duct* perforates the duodenum with the ductus communis choledochus, and conveys its secretion into the intestines. *Use*, to secrete a humour similar to saliva, and carry it into the duodenum.

LACTEALS.

The absorbing vessels, which convey the chyle from the intestines into the blood. *Origin*, from the surface of the duodenum, jejunum and ileum. *Termination*, in the thoracic duct, or trunk of the absorbents, which runs near the aorta on the spine, and empties it's contents into the jugular vein. *Use*. The lacteal passages carry the chyle from the intestines into the blood.

KIDNEYS.

Two viscera, which secrete the urine. *Situated* behind the sac of the peritoneum, near the bodies of the superior lumbar vertebræ. *Substance*, of three kinds—cortical—tubular—papillous. *Integuments*, or coverings, adipose membrane—membrana propria. *Renal arteries*, or *emulgentes*, are branches of the aorta descendens. *Veins*, empty themselves into the cava inferior. *Nerves*, branches of the eighth pair and intercostal.

tercostal. *Ureters*, canals which convey the urine from the kidneys into the bladder. *Supra-renal glands*, situated above the kidneys. *Use*, to secrete urine.

OF THE PELVIS IN GENERAL.

THE pelvis is a cavity under the pubis, containing the urinary bladder, rectum, and organs of generation.

URINARY BLADDER.

A membranous sac under the peritoneum, in the cavity of the pelvis. *Situation*—in men, between the pubes and rectum—in women, between the pubes and uterus. *Division*, into fundus, body and neck. *Composed* of four membranes like the intestines. *Arteries*, branches of the hypogastric and hæmorrhoidal. *Veins*, empty themselves into the hypogastric. *Nerves*, branches from the intercostal and sacral nerves. *Glands*, muciparous. *Use*, to receive, retain, and expel the urine.

THE MALE PARTS OF GENERATION

ARE, the penis, testicles, and vesiculæ feminales.

PENIS.

Also called membrum virile, or yard, is that cylindrical part, which hangs down under the mons veneris,
before

before the scrotum. *Division*, into root, body, and head called glans. The hairy prominence, which covers the pubes, is called *mons veneris*. *Substance*, consists of common integuments, two cavernous bodies—*corpus spongiosum urethræ*—and the *urethra* or canal through which the urine passes. *Prepuce*, a prolongation, or membranous fold of the skin, covering the glans. *Verumontanum*, a cutaneous eminence in the urethra before the neck of the bladder. *Glands*, muciparous—odoriferous—Cowper's glands—and the prostate. *Connection*, with the urethra, pubes, and ischium. *Arteries* are branches of the hypogastric and ischiatic. The *dorsal vein* of the penis empties itself into the *vena hypogastrica*. *Absorbents*, under the common integuments, running to the inguinal glands. *Nerves*, branches of the sacral nerves and ischiatic. *Use*, for erection, coition, sensation of pleasure, effusion of semen and of urine.

TESTICLES.

Two oval bodies contained in the cavity of the scrotum. The *epididymis* is an hard vascular substance lying on the testicle. *Integuments* of the testicle are, the scrotum—*tunica vaginalis*—and *tunica albuginea*. *Substance*, white slender canals, which, together with those of the epididymis, run into one great canal, *vas deferens*. *Spermatic arteries* are branches of the aorta. *Spermatic veins*, empty themselves into the *vena cava*, and left *vena renalis*. *Nerves*, branches
of

of the lumbar and great intercostal. *Absorbents*, ascend from the testicle through the funiculus. Thus the *funiculus spermaticus*, or spermatic cord, consists of the vas deferens, spermatic artery and vein, spermatic nerves, absorbent vessels, and tunica vaginalis, which the cremaster muscle surrounds. *Use*, to secrete and prepare semen.

VESICULÆ SEMINALES.

Two membranous receptacles, which receive and contain the semen from the vasa deferentia, situated on the back part of the bladder above it's neck. *Substance*, membranaceous, white, and covered with a fibrous substance. The *ductus ejaculatorius*, is some lines long, enters into the cavity of the urethra from each vesicle, and opens by a peculiar orifice at the top of the verumontanum. *Vessels and nerves*, from the neighbouring parts. *Absorbent vessels*, arise from the vesiculæ seminales, and run to the lymphatic glands about the loins. *Use*, to contain, retain, inspissate, and excrete the semen into the urethra.

THE PARTS OF GENERATION IN WOMEN.

THE parts, which serve for generation in women, are divided into external and internal. *External parts*, mons veneris—labia majora, two cutaneous folds situated externally—labia minora, or nymphæ, also two

two cutaneous folds, like a cock's comb, placed at the sides of the vagina—clitoris, a small glandiform body, like a penis in miniature, placed under the superior commissure of the nymphæ—and hymen, a membrane for the most part semilunar, situated at the entrance of the vagina. *Internal parts*—vagina—uterus—fallopian tubes—ovaria—broad and round ligaments of the uterus—and the urethra.

VAGINA.

An elastic canal leading from the external opening of the vulva to the uterus. *Composed* of three membranes, the outermost, or cellular—middle, or muscular—and internal, or rugous. *Glands*, mucous, situated under the internal membrane. *Use*, to receive the penis, and for the passage of the child in delivery.

UTERUS, OR WOMB.

A spongy receptacle, like a flattened pear, situated in the pelvis between the urinary bladder and rectum. *Division*, into fundus, body, neck, and orifice. *Substance of the uterus*, spongy, interwoven with muscular fibres. *Arteries* are, the spermatic, which are branches of the aorta—and the uterine, which are from the hypogastric and hæmorrhoidal. *Uterine veins* are without valves, and empty themselves into the spermatic, hypogastric, and external hæmorrhoidal veins. *Absorbents* run into the iliac glands. *Nerves* are branches of the sacral, ischiatic, and mesocolic. *Glands*, mucous. *Use*, for conception, nutrition of the foetus, parturition, and menstruation.

PARTS OF THE GRAVID UTERUS

ARE, the uterine placenta—umbilical cord—membranaceous ovum of the foetus—liquor amnii—and foetus.

UTERINE PLACENTA.

A spongy mass like a cake, generally adhering to the fundus of the gravid uterus, composed of a network of very numerous vessels. *Substance*, cellular, like a sponge filled with vessels. *Absorbents*, lately discovered. No *nerves*. *Use*, to receive and prepare the blood from the uterus for the foetus, and give off branches to the umbilical vein.

FUNICULUS UMBILICALIS, OR UMBILICAL CHORD.

A chord of an intestinal form, which runs from the navel of the foetus to the centre of the placenta. *Length*, mostly about half a yard. *Composed* of a cutaneous vagina or sheath—cellular substance—one umbilical vein, and two umbilical arteries. *Use*. The umbilical vein of the foetus conveys the blood from the placenta to the foetus, and the two umbilical arteries return it from the foetus to the placenta.

MEMBRANACEOUS OVUM OF THE FOETUS.

The foetus is inclosed in a large membranous ovum within the cavity of the uterus. The *ovum* consists of three membranes—an outer, or filamentous—middle, or chorion—and inner, or amnion. *Use*, to include the liquor amnii—to prevent its flowing into
the

the uterus. At the commencement of parturition, it assists in dilating the inferior uterine orifice, or ostinæ.

LIQUOR AMNII, OR LIQUOR OF THE AMNION.

A lymphatic liquid, inclosed in the cavity of the ovum furrounding the foetus, secreted by the exhaling arteries of the membranes of the ovum. *Quantity*, about the time of parturition, two or three pounds. *Property*, gelatinous, like turbid serum of milk. *Use*, to defend the foetus from the pressure of the uterus, to give it nourishment, to dilate the orifice of the uterus in labour, and to lubricate the vagina.

FOETUS.

During the first month of pregnancy, the ovum is about the size of a pigeon's egg, the foetus swims in the middle of the liquor amnii, and represents a little cloud, which gradually enlarges, and its parts become more firm and perfect. The parts of the foetus differ from the adult, in having—a foramen ovale, by which there is a communication between the two auricles—canalis arteriosus, which runs obliquely from the pulmonary artery to the aorta—a canalis venosus, which goes from the sinus of the vena portæ to the vena cava. The lungs are black, collapsed, and sink in water. The liver is larger. All the small glands are larger—large intestines are filled with meconium. All the canals and vessels peculiar to the foetus are obliterated after birth, and become ligaments.

H Y G R O L O G Y.

THE fluids of the body are divided into—*crude*, as the chyle—*sanguineous*, as the blood—*lymphatic*, as the lymph of the lymphatic vessels—*secreted*, or those separated from the blood—and *excrementitious*, as urine, fæces, &c.

The secreted fluids are sub-divided into *lacteal*, as the juice of the prostate gland—*aqueous*, as the aqueous humour of the eye—*mucous*, as the mucus of the nostrils—*albuminous*, as the serum of the blood—*oleous*, as the oil of the adipose membrane—*bilious*, as the bile.

Fluids are also divided from their motion into—*circulatory*, which continually circulate in the vessels—*commorant*, which circulate with a slow motion, as the semen, oil of the adipose membrane, &c. *Stagnant*, which remain for a certain time in any receptacle, as cystic bile, &c.

OF THE FLUIDS COMMON TO THE WHOLE BODY.

THE BLOOD.

A RED fluid, which circulates in the cavities of the heart, arteries, and veins. *Colour*, in the arteries, of
a florid

a *florid* hue—in the veins *darker*, except in the pulmonary vessels, in which it is of a *lighter* cast. Blood exposed to the atmosphere spontaneously *separates* by degrees into two parts, viz. the *serum*, a yellow and somewhat greenish fluid; and a *cake*, called also the *cruor*, or *crassamentum*, which resembles a red mass swimming like an island in the serum. *Use of the blood*, to stimulate the cavities of the heart and vessels to contraction—to generate the heat of the body, and propagate it to every part—to nourish every part—and to supply all the secretion, they being all separated from the blood.

THE LYMPH OF THE LYMPHATIC VESSELS.

A tasteless crystalline liquid, contained in the lymphatic vessels. *Absorbed* from the surface—*tela cellulosa*—viscera—and cavities of the viscera of the whole body; and *conveyed* into the thoracic duct. *Use*, to return the superfluous nutritious jelly, vapours of cavities and substances applied to the skin, to the thoracic duct.

THE VAPOUR OF THE VAGINÆ, OR SHEATHS OF THE NERVES.

The aqueous vapour contained in the sheaths and between the fibrils of the nerves. *Secretory organ*, the arteries of the vaginæ. *Use*, to moisten the nervous fibrils.

OF THE FLUIDS PROPER TO EACH PART.

IN THE CAVITY OF THE CRANIUM.

The vapour in the ventricles of the brain. A thin vapour contained in the cavity of the ventricles of the brain, and *secreted* by the exhaling arteries of the choroïd plexus. *Use*, to prevent the concretion of the ventricles, and keep the medulla moist.

IN THE CAVITY OF THE NOSTRILS.

The mucus of the nostrils. The mucus *secreted* by the muciparous glands of the pituitary membrane, lining the septum and conchæ of the nostrils. *Use*, to preserve the nervous papillæ of the olfactory nerves moist, and to moderate excessive sensibility.

IN THE CAVITY OF THE MOUTH.

The saliva. A fluid *secreted* by the salivary glands into the mouth. *The secretory organ* is composed of the parotid—sub-maxillary—and sub-lingual glands. *Use*, to augment the taste of the food—to mix with, dissolve and resolve the food into it's principles—and to moderate thirst.

IN THE CAVITY OF THE FAUCES.

The mucus of the fauces. A mucus *secreted* by the muciparous glands of the tonsils, pharynx, &c. *Use*, to lubricate the fauces.

IN THE EYES.

The aqueous humour of the eye. The very limpid water, which fills the anterior and posterior chambers of the eye. *Secretory organ*, the floating vessels of the corpus ciliare, and exhaling vessels of the iris. *Use*, to distend the cornea—retain the crystalline lens and vitreous humour in their places—and to transmit the focus of the rays of light to the crystalline lens.

The crystalline lens. A lentiform pellucid cellular body, distended by a very limpid aqueous fluid, inclosed in a membranous capsule, and situated in a depression in the anterior surface of the vitreous humour. *Use*, to transmit and refract the focus of the rays of light to the vitreous humour.

The vitreous humour. The pellucid vitriform body, which fills the whole bulb of the eye behind the crystalline lens. *Composed* of small cells distended, with a limpid aquula. *Use*, to expand the bulb—and transmit (and moderately augment) the focus of the rays of light from the crystalline lens to the retina.

The water in the capsule of the crystalline lens. *Secreted* by the pellucid ramuli of the artery of the crystalline lens. *Use*, to prevent the concretion of the crystalline lens with it's capsule.

The pigment of the iris. The coloured mucus, which covers the anterior and posterior surface of the iris. *Use*, to reflect the rays of light.

The pigment of the choroid membrane. The black or brownish mucus, which covers the anterior surface of the choroid membrane, and the interior of the corpus ciliare.

The tears. A limpid fluid secreted by the lachrymal gland, and flowing on the surface of the eye. *Use,* to moisten the surface of the eye and eye-lids.

The juice of Meibomius's glands. The unctuous humour secreted by the sebaceous glands of Meibomius, and lubricating the tarfi of the eye-lids. *Use,* to lubricate the tarfi of the eye-lids, and involve the saline acidity of the tears.

IN THE CAVITY OF THE EARS.

The cerumen, or wax of the ears. The bitter ceraceous fluid secreted by the ceruminous glands of the meatus auditorius externus. *Use,* to lubricate the sensible membrane of that canal, and to prevent insects from entering.

The water of the labyrinth. An insipid water contained in the cavity of the tympanum. *Use,* to preserve the nervous fibrils of the auditory nerve soft and moist, and to moderate the tremors of sounds.

IN THE NECK.

The juice of the thyroid gland. Of a yellowish white colour, especially in infants. *Use,* not known.

The

The mucus of the œsophagus. Secreted by the muciparous glands, situated in the cellular membrane. *Use*, to lubricate the cavity of œsophagus, and prevent the concretion of it's sides.

IN THE CAVITY OF THE THORAX.

The mucus lining the internal surface of the trachea, bronchia, and vesiculæ pulmonales. Secretory organ, the muciparous glands situated under the internal membrane of those parts. *Use*, to prevent the surface of the trachea, bronchia, and vesiculæ pulmonales from becoming dry by the continual passing of the air.

The vapour in the cavity of the thorax. A vapour which exhales from the exhaling vessels of the pleura of the lungs and ribs, into the cavity of the thorax. *Use*, to preserve the pleura soft, moist and flexible; and to defend and prevent it from the friction of, and concretion with, the lungs.

The vapour or liquor pericardii. Secreted by the arterious exhaling vessels, which open upon the external surface of the heart, and internal of the pericardium. *Use*, to prevent the concretion of the heart with the pleura—to diminish the friction—and preserve the parts soft.

The juice of the thymus gland. A milky juice secreted by the arteries opening into the cells of this gland. *Use*, not known.

IN THE BREASTS.

The milk of the breasts. A white, sweetish fluid, secreted by the glandular fabric of the breasts of women. *Use*, to be an aliment to new-born children.

IN THE ABDOMEN.

The gastric juice. A limpid colourless fluid, secreted by the exhaling oscula of the very numerous arteries, which bedew every part of the stomach. *Use*, to digest the food.

The pancreatic juice. The limpid juice secreted by this gland, and conveyed through its excretory duct into the duodenum. *Use*, to assist in the formation of chyle.

Bile. A yellowish-green bitter juice, secreted by the glandular substance of the liver, and conveyed by the biliary ducts, in part, into the duodenum, and in part into the gall-bladder—hence cystic and hepatic bile. *Use*, to extricate the chyle from the digested mass of food—to stimulate the intestines—and to prevent the abundance of mucus and acidity in the primæ viæ.

Chyle. A white fluid, separated from the food in the primæ viæ, and observed some hours after eating in the lacteal vessels of the mesentery, and in the thoracic duct. *Use*, to form blood.

The enteric juice. A limpid liquor, secreted by the
exhaling

exhaling arteries in the whole course of the small and large intestines. *Use*, to assist in digestion—and to cleanse and moisten the intestines.

The mucus of the primæ viæ. Secreted by the muciparous glands situated under the villous coat of the primæ viæ. *Use*, to lubricate that canal.

The vapour or fluid in the cavity of the abdomen. An aqueous vapour, secreted by the exhaling oscula of the arteries of the peritoneum. *Use*, to preserve moist, and prevent the concretion of the abdominal viscera.

Urine. A saline liquid, of a citrine colour, secreted in the kidneys, and dropping down from them guttatim through the ureters into the cavity of the urinary bladder. *Use*, to liberate the body from the superfluous water, &c.

The mucus of the bladder. Secreted by the muciparous glands situated under the innermost membrane. *Use*, to lubricate and defend the internal and very sensible surface of the urinary bladder.

IN THE PARTS OF GENERATION IN MEN.

The mucus of the urethra. Secreted by the muciparous glands situated under the internal membrane. *Use*, to lubricate and defend the very sensible surface of the urethra against the acridity of the urine.

The smegma of the glans penis. An unctuous humour secreted by the sebaceous follicles on the surface

face of the glans and prepuce. *Use*, to lubricate and defend the sensible surface of the glans, and prevent it's concretion with the prepuce.

The vapour of the tunica vaginalis testis. The aqueous vapour, which exhales from the arteries into the cavity of the tunica vaginalis testis. *Use*, to prevent the concretion of the testes with the tunica vaginalis, and preserve them moist.

The liquor of the prostate gland. A lactescent juice, separated by the arteries of the prostate gland, and sent through its ducts *sub coitu* into the urethra with the semen. *Use*, to serve as a vehicle to the semen.

The semen. The prolific liquor, secreted in the testes, and carried through the epididymis and vas deferens into the vesiculæ seminales. *Use*, to be emitted *sub coitu* into the female vagina, and there by its aura to penetrate to and impregnate the ovulum in the female ovarium.

IN THE PARTS OF GENERATION IN WOMEN.

The smegma of the labia and vulva. The unctuous juice secreted by the sebaceous glands, and covering the internal surface of the labia and nymphæ. *Use*, to lubricate their sensible surface, and prevent any irritation *post mictum*.

The mucus of the vagina. Secreted by the muciparous glands under the internal membrane. *Use*, to lubricate

lubricate the vagina, lest it be pained by friction *sub coitu*, and to prevent the concretion of it's sides.

The liquor of the cavity of the uterus. Secreted into it by the exhaling arterious vessels. *Consistence*, in the virgin uterus, ferous and turbid—in the gravid, lactescent. *Use*, to moisten the cavity, and prevent it's concretion.

IN THE ARTICULATIONS.

The Synovia. An unctuous fluid, secreted by the synovial glands, and contained in the capsular ligaments, and articulations of the bones. *Use*, to lubricate the cartilaginous surfaces of the articulatory bones, and facilitate their motions.

The juice of the bursæ mucosæ. An unctuous and somewhat mucilaginous juice, secreted by the vessels of the internal membrane of the bursæ mucosæ. *Use*, to lubricate the tendons for motion.

IN THE BONES.

The marrow of bones. The oily substance secreted by the arteries of the internal periosteum, and contained in the medullary cavities of the long bones, and spongy substance of others.

FLUIDS OF THE COMMON INTEGUMENTS.

The mucus of Malpighi, or rete mucosum. The mucus situated between the epidermis and cutis of the whole

whole body, and secreted by the arterious vessels of the skin. *Use*, to conglutinate the epidermis to the cutis—to moderate the sense of touch—to moisten the nervous cutaneous papillæ—and give the external colour to the body—hence it is *white* in Europeans, *black* in *Æthiopians*, &c.

The oil of the adipose membrane. Secreted by the arteries of the cellular membrane. *Use*, to facilitate muscular motion.

Sweat. The aqueous perspirable matter excreted through the exhaling arteries of the skin. *Use*, to keep the skin moist.

A

GLOSSARY,

OR

Explanation of Anatomical Terms.

A.

ABDOMEN. *The cavity of the belly ; from abdo to hide, as including the intestines, &c.*

ACETABULUM. *The cavity, which receives the head of the thigh bone ; from acetum vinegar : so called because it represents the acetabulum or old saucer, in which vinegar was held for the use of the table.*

ACINI. *The glands of the liver ; from acinus a grape.*

ACROMION. *A process of the scapula ; from ακρος extremity, and ωμος the shoulder.*

ADENOLOGY. *The doctrine of the glands ; from αδην a gland, and λογος a discourse.*

ADIPOSE *membrane ; from adeps fat.*

AMPHYARTHROSIS. *A species of connection of bones, which admits of an obscure motion ; from αμφι, and αρθρωσις an articulation.*

ANA-

ANASTOMOSIS. *The communication of vessels with one another; from ανα through, and σωμα a mouth.*

ANATOMY. *The dissection of the human body; from ανα, and τεμνω to dissect.*

ANCON. *The elbow; from αγκων from αγκαζομαι to embrace, απο τς αγκεισθαι ετερω οσεω το οσεον, because the bones meeting, and there uniting, are folded one into another.*

ANCONOID. *A process of the cubit; from αγκων the elbow, and ειδος shape.*

ANGIOLOGY. *The doctrine of the vessels; from αγγειον a vessel, and λογος a discourse.*

ANNULAR. *Like a ring.*

APONEUROSIS. *A tendinous expansion; from απο from, and νευρον a nerve; from an erroneous supposition of the ancients, that it was formed by an expansion of a nerve.*

APOPHYSIS. *A process of a bone; from απο, and φυω to grow.*

ARACHNOIDES. *A net-like membrane; from αραχνη a spider, and ειδος form or shape.*

ARTERY. *From αηρ air, and τησσω to keep; because the ancients believed they carried the finer parts of the blood mixed with air.*

ARTHRODIA. *A species of connection of bones; from αρθρω to articulate.*

ARYTÆNOIDES. *The name of two cartilages of the larynx; also applied to some muscles of the larynx; from αρυταινα a funnel, and ειδος shape.*

ATLAS.

ATLAS. *The first vertebra of the neck, so called because it sustains the head ; from the fable of Atlas being supposed to have supported the world.*

AZYGOS. *A term applied to parts without a fellow, from α priv. and ζυγος a yoke, because it has no fellow.*

B.

BRONCHIA. *The ramifications of the trachea or wind-pipe ; from βρεχω to pour, because the ancients believed that the fluids were conveyed into the stomach by the bronchia.*

BURSA. *A bag ; from βурсα, generally applied to the bursæ mucosæ.*

BURSALOGY. *The doctrine of the bursæ mucosæ ; from βурсα a bag, and λογος a discourse.*

C.

CALVARIA. *The top of the cranium ; from calvus bald.*

CANCELLI. *Lattice work, generally applied to the reticular substance in bones.*

CARDIA. *The superior opening of the stomach ; from καρδια rad. the heart, because it is situated near it.*

CAROTID. *The name of some arteries of the neck and head, from καρω to cause to sleep ; for, if tied with a ligature, the animal becomes comatose, or having the appearance of being asleep.*

CERVIX. *The neck.*

L

CHORION.

CHORION. *The external membrane of the fœtus in utero.* χωριον from χωρεω to escape, because it always escapes from the uterus with the fœtus.

CHOROID membrane; from χοριον the chorion, and ειδος likeness; so called on account of it's many blood-vessels resembling the chorion.

CLAVICULA. *The clavicle or collar bone,* a diminutive of *clavis* a key; so called from it's resemblance to an ancient key.

CLINOID. *Four processes of the sella turcica of the ethmoid bone,* are so called, from κλινη a bed, and ειδος likeness, from their supposed resemblance to a couch.

CLITORIS. *A part of the female pudenda, enclosed by the labia majora;* from κλειω to enclose or hide.

COLON. *The first of the large intestines;* from κωλον, quasi κοιλον, from κοιλος hollow; it generally being found empty and full of wind in the dead body.

CONDYLE. *An eminence in any of the joints;* κονδυλος, from κονδυ, an ancient cup shaped like a joint.

CORACO. Names compounded with this word, are belonging to muscles which are attached to the coracoid process of the scapula; as coraco-hyoideus, &c.

CORACOID process of the scapula; from κοραξ a crow, and ειδος resemblance, it being shaped like the beak of a crow.

CORONOID. *A process* so called, from κορωνη a crow, and ειδος likeness, from it's resemblance to a crow's beak.

COTYLOID

COTYLOID *cavity of the os innominatum, which receives the head of the thigh-bone; from κοτυλη the name of an old measure, and ειδος resemblance.*

CRANIUM. *The skull; κρανιον, quasi καρανιον, from καρα the head.*

CREMASTER. *A muscle so called; from κρεμαω to suspend, because it suspends the testicle.*

CRIBRIFORM, or Ethmoid bone of the skull; from *cribrum* a sieve, it being perforated like a sieve.

CRICOID. *Annular, round like a ring; from κρικος a ring, and ειδος likeness.*

CRISTA. *A crest or comb.*

CRURA. *The plural of crus, a leg or root; applied to some parts of the body from their resemblance to a leg or root, as crura cerebelli, &c.*

CUBOIDES. *A bone of the foot; from κυβος a cube, and ειδος likeness; because it resembles a cube.*

CUNEIFORM. *Some bones are so called; from cuneus a wedge, and forma likeness; being shaped like a wedge.*

D.

DELTOID. *A muscle resembling the Greek letter Δ; from Δ and ειδος resemblance.*

DIAPHRAGM. *The muscle which separates the thorax from the abdomen; from δια and φραττω to divide.*

DIARTHROSIS. *A moveable connection of bones; from διαρθρω to articulate.*

DIGASTRIC muscle; from δις twice, and γαστηρ a belly; having two bellies.

DIPLOE. *The spongy substance between the two tables of the skull; from διπλω to double.*

E.

ENARTHROSIS. *An articulation of bones; from εν in, and αρθρον a joint or articulation.*

EPIDERMIS. *The scarf or outermost skin; from επι upon, and δερμα the skin.*

EPIDIDYMIS. *The small oblong body which lies above the testicles; from επι upon, and διδυμος the testicles.*

EPIGASTRIC. *The superior part of the abdomen; from επι upon, and γαστηρ the stomach.*

EPIGLOTTIS. *A cartilage so called; from επι upon, and γλωττις the aperture of the larynx, being situated upon the glottis.*

EPIPHYSIS. *A portion of bone growing upon another bone, but separated from it by cartilage; from επι upon, and φυω to grow.*

EPIPLOON. *The membranous viscus of the abdomen, which covers the intestines, and hangs to the bottom of the stomach; from επι upon, and πλεω to swim.*

EPISTAPHILINUS. *A muscle of the palate, in shape like a parsnip, is so called, from επι and σαφυλινος a parsnip.*

EPISTROPHEUS. *The second vertebra of the neck; from επιστροφω to turn round, because the head is turned upon it.*

ETHMOID. *A bone of the cranium is so called, from εθμος*

εθμος a sieve, and εἶδος resemblance; it being perforated like a sieve.

F.

FASCIA. *An expansion of a muscle, enclosing others like a band; from φασκία a band.*

FALCIFORM. *Shaped like a scythe; from falx a scythe.*

FASCICULUS. *A little bundle.*

FOSSA. *A small cavity of a bone.*

G.

GANGLION. Γαγγλιον, a knot in the course of a nerve.

GASTROCNEMIUS. *The muscle which forms the thick of the leg; from γαστηρ the belly, and κνημη the leg.*

GENIO. Names compounded with this word belong to muscles which are attached to the chin, as Genio-glossus—Genio-hyoideus—Genio-pharyngeus, &c; from γενειον the chin.

GENU. *The knee; from γονυ, παρα το εις γην νευειν, because by it the body is bent towards the earth.*

GINGLYMUS. *An articulation; from γιγγλυμος a hinge.*

GLENOID cavity; from γληνη a cavity, and εἶδος resemblance.

GLOSSO. Names compounded with this word belong to muscles, from their being attached to the tongue; as Glosso-pharyngeus—Glosso-staphylinus, &c. from γλωσσα the tongue.

GLOTTIS. *The superior opening of the larynx at the bottom of the tongue ; from γλωττα the tongue.*

GLUTEUS. *The name of a muscle ; from γλατος the buttocks.*

GOMPHOSIS. *Inclavation, a species of immoveable connection of bones ; from γομφος a nail, because one bone is fixed in another bone like a nail in a board.*

H.

HARMONIA. *A species of immoveable connection of bones ; from αρω to fit together.*

HELIX. *The outward circle of the ear ; from ειλεω to turn about.*

HEPAR. *The liver. Ηπαρ prim.*

HYALOID membrane ; from υαλος glass, and ειδος a likeness ; so called from it's transparent and glassy appearance.

HYGROLOGY. *The doctrine of the fluids ; from υγρος a fluid, and λογος a discourse.*

HYMEN. *The membrane situated at the entrance of the virgin vagina ; from υμην hymen.*

HYO. Names compounded with this word belong to muscles, which are attached to the os hyoides, as hyo-glossus—hyo-pharyngeus—hyo-thyroides ; from υοειδες the os hyoides.

HYOIDES. *A bone of the tongue so called from its resemblance to the Greek υ ; from υ and ειδος resemblance.*

HYPOCONDRIUM. *That part of the body which lies under*

under the cartilages of the spurious ribs; from ὑπο under, and χονδρος a cartilage.

HYPOGASTRIC. *The lower region of the fore-part of the abdomen; from ὑπο under, and γαστηρ the stomach.*

I.

ILEUM. *A portion of the small intestines; from ειλεω to turn; it being always convoluted.*

ILIUM. *Part of the os innominatum, so called because it supports the ειλεια or small intestines.*

ISCHIUM. *The part of the os innominatum upon which we sit; from ισχυω to sustain.*

L.

LAMDOIDAL suture; *so called because it is shaped like the letter λ; from λ and ειδος resemblance.*

LARYNX. *The superior part of the wind-pipe; λαρυγξ the larynx.*

M.

MASSETER. *A muscle of the face, which assists in the action of chewing; from μασσασθαι to chew.*

MASTOID. *A process so called; from μαστος a breast, and ειδος likeness, being shaped like a nipple or breast.*

MAXILLARY. *The upper and under jaws are called maxillary bones; from μασσασθαι to chew.*

MEDIASTINUM. *The production of the pleura, which divides the thorax into two cavities; from medium the middle.*

MESENTERY. *The membranes to which the intestines are attached; from μεσος the middle, and εντερον an intestine, because it is in the middle of the intestines.*

MESOCOLON. *That part of the mesentery in the middle of the colon; from μεσος the middle, and κολον the colon.*

METACARPUS. *That part of the hand between the carpus and fingers; from μετα after, and καρπος the wrist.*

METATARSUS. *That part of the foot between the tarsus and toes; from μετα after, and ταρσος the tarsus.*

MYLO. Names compounded with this word, are names of muscles, which are attached near the grinders, as Mylo-hyoides—Mylo-pharyngeus, &c.; from μυλη a grinder tooth.

MYOLOGY. *The doctrine of the muscles; from μυς a muscle, and λογος a discourse.*

N.

NEUROLOGY. *The doctrine of the nerves; from νευρον a nerve, and λογος a discourse.*

O.

ODONTOID, *or tooth-like process; from οδης a tooth, and ειδος resemblance.*

ŒSOPHAGUS. *The canal leading from the pharynx to the stomach; from οιω to carry, and φαγω to eat; because it carries the food into the stomach.*

OLECRA-

OLECRANON. *The elbow or head of the ulna; from* *ωλενη* the cubit, and *κρανον* the head.

OMO. Names compounded with this word belong to muscles which are attached to the scapula, as *Omo-hyoideus*, &c. from *ωμος* the shoulder.

OMOPLATA. *The scapula or shoulder-blade; from* *ωμος* the shoulder, and *πλατυς* broad.

ORGASM. *A violent salaciousness attended with turgescence in the parts; from* *οργαω* to desire vehemently.

OSTEOLOGY. *The doctrine of the bones; from* *οσεν* a bone, and *λογος* a discourse.

P.

PANCREAS. *A viscus of the abdomen, so called from* *it's fleshy consistence; from* *παν* all, and *κρεας* flesh.

PAROTID gland; from *παρα* near, and *ους* the ear; because it is situated near the ear.

PELVIS. *A bony cavity shaped like a basin; from* *πελυς* a basin.

PERICARDIUM. *The membrane which surrounds the heart; from* *περι* around, and *καρδια* the heart.

PERICRANIUM. *The membrane which covers the bones of the skull; from* *περι* around, and *χρανιον* the cranium or head.

PERIOSTEUM. *The membrane which surrounds the bones; from* *περι* around, and *οσεν* a bone.

PERITONEUM. *The membrane lining the abdomen,*
and

and covering it's viscera ; from περιτεινω to extend around.

PHARYNX. *A membranous bag at the end of the mouth ; απο το φερειν, because it conveys the food into the stomach.*

PHRENIC nerve. Φρενες the diaphragm ; from φρην the mind, because the ancients supposed it to be the seat of the mind.

PHYSIOLOGY. *That part of natural history which treats of the actions and functions of an animated body ; from φυσικ nature, and λογος a discourse.*

PLACENTA. *The after-birth ; from πλακας a cake, from it's resemblance to a cake.*

PLATYSMA-MYOIDES. *A muscle of the neck ; from πλατυς broad, μυς a muscle, and ειδος resemblance.*

PLEURA. *The membrane lining the thorax ; πλευρα the side.*

PLEXUS. *A kind of net-work of vessels or nerves, from plecto to weave together.*

PRÆPUCE, or *fore-skin of the penis ; from præputo to cut off before, because the Eastern nations usually cut it off.*

PROCESS. *An eminence of a bone ; from procedo to start out, to go on.*

PSOAS. *A muscle so called ; from ψοα the loin, being situated in the loins.*

PTERYGOID process ; from πτερυξ a pen or wing, and ειδος likeness ; so called from it's likeness to a pen or wing.

PYLORUS,

PYLORUS. *The lower orifice of the stomach, which opens into the intestines; from πυλω to guard an entrance, because it guards as it were the entrance of the bowels.*

R.

RAPHE. *A suture.* 'Ραφη, from ῥαπίω to sew.

RENES. *The kidneys, απο τῆς ῥειν, because through them the urine flows.*

RETE. *A net; a congeries of vessels or any animal substance resembling a net.*

RETIFORM. *Net like; from rete a net, and forma likeness.*

RETINA. *The net-like expansion of the optic nerve, on the inner surface of the eye; from rete a net.*

RHOMBOIDES. *A muscle so called from it's shape; from ῥομβος a geometrical figure, whose sides are equal but not right-angled, and εἶδος a likeness.*

RIMA. (Ρηγμα.) *A fissure.*

ROTULA. *The knee-pan; a dim. of rota a wheel, from it's shape.*

S.

SACRUM. *A bone so called; from sacer sacred, because it was once offered in sacrifices.*

SANGUIS. *The blood; απο τῆς σαιν γυια, because it preserves the body.*

SARTORIUS. *A muscle so called, because taylors cross their legs with it; from sartor a taylor.*

SCAPHA.

SCAPHA. *The depression of the outer ear before the anti-belix; from σκαφη a little boat or skiff; from σκαπλω to dig, because skiffs were formerly only trees made hollow.*

SCAPHOIDES. *A bone of the carpus, so called from it's resemblance to a skiff; from σκαφη a skiff, and εidos a likeness.*

SCAPULA. *The shoulder-blade; from σκαπλω.*

SCLEROTIC. *A term applied to the outermost or hardest membrane of the eye; from σκληρωω to make hard.*

SELLA TURCICA. *So called from it's supposed resemblance to a Turkish saddle.*

SEPTUM. *Any partition or division; from sepio to enclose.*

SESAMOID bones; *from σησαμη an Indian grain, and εidos a likeness, from their resemblance to the semen sesami.*

SIGMOID. *Parts are so called from their resemblance to the letter Σ; from Σ the letter Sigma, and εidos likeness.*

SINUS. *A cavity; from κενος void.*

SPHÆNOID BONE; *from σφην a wedge, and εidos a likeness, it being shaped like a wedge.*

SPHINCTER. *The name of several muscles, whose office it is to shut up the aperture around which they are placed; from σφισγω to shut up.*

SPINE of the body; *so called from the thorn-like processes of the vertebræ; from spina a thorn.*

SPLANCHNOLOGY. *The doctrine of the viscera; from σπλαγχνον an entrail, and λογος a discourse.*

STERNUM. *Στερνόν, the breast bone.*

STILIFORM. *Shaped like a bodkin or stile; from stylus a bodkin, and forma a likeness.*

SULCUS. *A furrow; generally applied to a groove in a bone.*

SUTURE. *A species of immoveable connection of bones; from suo to join together.*

SYMPHYSIS. *A connection of bones; from συμφύω to grow together.*

SYNARTHROSIS. *A connection of bones; from συν with, and αρθρον a joint.*

SYNCHONDROSIS. *A species of union of bones by means of cartilage; from συν with, and χονδρος a cartilage.*

SYNDESMOLOGY. *The doctrine of the ligaments; from συνδεσμος a ligament, and λογος a discourse.*

SYNDESMOSIS. *A species of union of bones by means of ligament; from συνδεσμος a ligament.*

SYNEUROSIS. *A species of connection of bones by means of membrane; from συν with, and νευρον a nerve; because membranes, ligaments, and tendons were by the ancients considered as nerves.*

SYSSARCOSIS. *A species of connection of bones by means of muscle; from συν with, and σαρξ flesh.*

T.

TELA. *A web of cloth. The cellular membrane is called tela cellulosa, from its likeness to a fine web.*

TENDON. From τεινω to extend.

SCAPHA. *The depression of the outer ear before the anti-belix*; from σκαφη a little boat or skiff; from σκαπλω to dig, because skiffs were formerly only trees made hollow.

SCAPHOIDES. *A bone of the carpus, so called from it's resemblance to a skiff*; from σκαφη a skiff, and εἶδος a likeness.

SCAPULA. *The shoulder-blade*; from σκαπλω.

SCLEROTIC. *A term applied to the outermost or hardest membrane of the eye*; from σκληρωω to make hard.

SELLA TURCICA. So called from it's supposed resemblance to a Turkish saddle.

SEPTUM. *Any partition or division*; from sepio to enclose.

SESAMOID bones; from σησαμη an Indian grain, and εἶδος a likeness, from their resemblance to the semen sesami.

SIGMOID. *Parts are so called from their resemblance to the letter Σ*; from Σ the letter Sigma, and εἶδος likeness.

SINUS. *A cavity*; from κενός void.

SPHÆNOID BONE; from σφην a wedge, and εἶδος a likeness, it being shaped like a wedge.

SPHINCTER. *The name of several muscles, whose office it is to shut up the aperture around which they are placed*; from σφίγω to shut up.

SPINE of the body; so called from the thorn-like processes of the vertebræ; from spina a thorn.

SPLANCHNOLOGY. *The doctrine of the viscera*; from σπλαγχνον an entrail, and λογος a discourse.

STERNUM. *Στερνόν, the breast bone.*

STILIFORM. *Shaped like a bodkin or stile; from stylus a bodkin, and forma a likeness.*

SULCUS. *A furrow; generally applied to a groove in a bone.*

SUTURE. *A species of immoveable connection of bones; from suo to join together.*

SYMPHYSIS. *A connection of bones; from συμφύω to grow together.*

SYNARTHROSIS. *A connection of bones; from συν with, and αρθρον a joint.*

SYNCHONDROSIS. *A species of union of bones by means of cartilage; from συν with, and χονδρος a cartilage.*

SYNDESMOLOGY. *The doctrine of the ligaments; from συνδεσμος a ligament, and λογος a discourse.*

SYNDESMOSIS. *A species of union of bones by means of ligament; from συνδεσμος a ligament.*

SYNEUROSIS. *A species of connection of bones by means of membrane; from συν with, and νευρον a nerve; because membranes, ligaments, and tendons were by the ancients considered as nerves.*

SYSSARCOSIS. *A species of connection of bones by means of muscle; from συν with, and σαρξ flesh.*

T.

TELA. *A web of cloth. The cellular membrane is called tela cellulosa, from its likeness to a fine web.*

TENDON. From τεινω to extend.

THORAX. *Θοράξ, the breast or chest.*

THYROID cartilage; from *θυρεος* a shield, and *ειδος* likeness, because it is shaped like a shield.

TRACHEA. *The wind-pipe;* so called from its roughness, from *τραχυς* rough.

TRAPEZOID bones of the carpus; from *τραπεζιον* a four-sided figure, and *ειδος* a likeness.

TRICEPS. *A muscle so called;* from *tres* three, and *caput* a head, because it has three heads.

TROCHANTER. *A process of the thigh-bone,* so called from *τρεχω* to run, because the muscles inserted in these parts perform the office of running.

TROCHLEA. *A kind of cartilaginous pulley,* through which the tendon of one of the muscles of the eye passes; from *τρεχω* to run.

TROCHOIDES. *A species of articulation of bones;* from *τροχος* a wheel, and *ειδος* likeness; because one bone moves round upon another like a wheel upon its axle-tree.

TUNIC. *A skin, coat, or membrane;* from *tuendo* to defend.

U.

ULNA. *A name for the cubit;* from *ωλενη* the cubit.

URETER. *The canal which conveys the urine from the kidney to the bladder;* from *ουρον* urine.

URETHRA. *The passage through which the urine passes from the bladder;* from *ουρον* the urine.

UVEA. *The posterior lamina of the iris,* so called because

cause in beasts (which the ancients chiefly dissected) it is of the colour of unripe grapes ; from *uva* an unripe grape.

UVULA. *The glandular substance which hangs down from the middle of the soft palate ; so called from it's resemblance to a grape. A dim. of uva a grape.*

V.

VAGINA. *A sheath.*

VALVES. *Little membranes, that prevent the return of the blood ; from valvæ folding doors.*

VERTEBRÆ. *The bones of the spine are so called, from verto to turn.*

VOMER. *A bone of the nose, so called from it's resemblance to a plough-share ; from vomo to turn up.*

X.

XYPHOID cartilage, so called from it's resemblance to a sword ; from ξίφος a sword, and εἶδος likeness.

Z.

ZYGOMA. *The cavity formed by the zygomatic process of the temporal bone ; from ζυγος a yoke, because it transmits the tendon of the temporal muscle like unto a yoke.*

Just published by the same Author, Price 3s. 6d. Octavo,

THE
STRUCTURE AND ECONOMY
OF
P L A N T S;
With an ANALOGY between the
ANIMAL AND VEGETABLE.

Preparing for the Press,

AN
ANATOMICAL DICTIONARY.
ALSO,
ANATOMICAL AND PHYSIOLOGICAL
DIALOGUES.
